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Bureau of Agricultural Economics

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THE AGRICULTURAL OUTLOOK 1927.

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THE GENERAL AGRICULTURAL SITUATION.

The livestock industries have been in relatively favorable position during the past year and they continue to represent the strength of the situation as agriculture enters the new season.

Farmers suffered some severe reduction in prices of their leading cash crops, however, notably cotton, grains and fruit. The gross value of the principal crops, based upon prices December 1, 1926, was \$7,802,000,000 compared with \$8,789,000,000 a year ago.

In consequence, the conditions in certain important producing regions have shown no improvement within a year.

The disparity between prices of farm products and the cost of industrial goods and services is greater than a year ago. Whether this trend is to continue during 1927 apparently depends in part upon how effective a readjustment is made in certain cash crop acreages and upon the character of the growing season. Production costs in certain lines may be slightly lower this year than last.

The situation is clearly such as to discourage any general expansion of agricultural production. In some areas it apparently means a greater utilization of lands for pasture and forestry.

The Domestic demand Outlook

For the crop season 1927-28, the agricultural industry as a whole should anticipate a domestic market not materially different from ^{the present,} though possibly somewhat better. The domestic demand for the 1926 farm production yet to be marketed during the first half of 1927, is likely to continue less favorable than that of either the first or second half of 1926.

The present level of business activity, industrial employment and the money income of consumers is lower than that of a year ago. The volume of output has been accompanied by a lower level of industrial employment and wage earnings particularly in the iron and steel, and automobile industries. The building industry has been somewhat less active during the past nine months than in the same period a year ago, as is indicated by the total value and volume of contracts awarded for the entire country. Contemplated projects or the potential demand for the building construction also appears to be declining. Furthermore, income from agricultural production during the present season is at least 5 per cent below that of last year, as a result of lower prices. The drop in farm prices, however, is largely due to increased supplies rather than lower domestic demand. Money incomes of consumers and their ability to buy goods are now lower than a year ago, and may be expected to continue ^{for several months} so, though without any drastic decline. The latter might be a probability were retail prices higher than a year ago and were the present business situation marked by financial or credit stringency. In fact, credit for commercial purposes appears to be ample and with unsound factors (such as heavy inventories) not apparent, credit should continue to be available

Domestic Demand - 2 -

for productive purposes at reasonable rates. Industrial prices, however, have recently tended downward and have affected profit margins adversely, a condition which might check the tendency for commercial enterprises to take full advantage of the available cheap credit in the immediate future.

Should the present favorable money conditions continue well into the present year, a domestic demand for the 1927-28 farm production moderately better than the present may be anticipated. The declining level of industrial production may tend to stabilize industrial prices and with available credit would result in increased employment and manufacturing output in the second half of 1927.

The contribution of agriculture during 1927-28 to the national buying power promises at best to be no greater than that of the present season and it may quite likely be somewhat less.

Balancing agricultural prospects against the somewhat better prospects for other industries, the latter providing by far the greater portion of consumer buying power, it appears that there may be a moderately better domestic demand for the 1927-28 season, but not sufficient to warrant expansion of production without regard to the greater consequences of increased supplies. Declines in agricultural prices during 1926 were due not so much to the somewhat lower buying power of consumers as to increased supplies of cash crops. There are no indications of such an increase in domestic demand in the immediate future as to absorb even present farm production at satisfactory prices.



THE FOREIGN COMPETITION AND DEMAND OUTLOOK

The purchasing power of foreign countries for agricultural products of 1927 will probably be equal to or greater than for the products of 1926. Improved economic conditions in Great Britain and Germany, our most important markets, may more than offset depression in other European countries. It seems probable, however, that larger foreign production of breadstuffs, fruits and animals products next year will reduce foreign demand for our exportable surpluses of these products. Well sustained exports of tobacco with increasing proportion of cigarette types may be expected. Foreign demand for cotton goods is likely to be maintained and possibly increased but heavy foreign purchases of cheap cotton from the 1926 crop may diminish the foreign takings of the crop of 1927.

In attempting to estimate the strength of foreign markets for our agricultural products in 1927 it is necessary to give consideration to general economic conditions and purchasing power in consuming countries and competing agricultural production outside of the United States. Favorable features of the foreign outlook situation are: (1) A prospect of a higher rate of business activity and greater purchasing power in Germany for 1927. (2) Recovery of industry and improving economic conditions in Great Britain. Unfavorable features are: (1) Reduction of business activity in Italy and France and continued depression in certain smaller European countries. (2) Possibility of larger bread grain and fruit crops in Europe than the generally poor crops of 1926 with some increase in animal production. (3) Prospective larger area in world grain crops. (4) Further world wide expansion of the dairy industry.

FOREIGN COMPETITION AND DEMAND OUTLOOK - 2

In Great Britain industrial activity which was seriously retarded in 1926 by the disastrous coal strike is showing considerable improvement but the country will feel the effects of the depression for a few months more. With normal supplies of coal and more tranquil labor conditions there should be a considerable revival in manufacturing activity and unemployment should decrease. In the textile industry the American cotton section/^{while} still working on short time but activity is expected to increase. There is some optimism on account of the prospect of a revival of demand from India for cotton goods and decreasing competition from Italy and France in near Eastern and Latin American countries.

The German economic situation has shown a remarkable improvement during recent months and this recovery is likely to be maintained. German coal and steel industries have been stimulated by the English coal strike and it remains to be seen how these industries will adjust themselves when this favorable influence is completely removed. The organization of international cartels, of which the Continental Steel Cartel is by far the most important, will undoubtedly have a stabilizing influence. Germany during the current season has been our best market for cotton, taking greater quantities than Great Britain, and the mills are reported to have a satisfactory volume of unfilled orders. On the whole, the improvement of German industry and increasing purchasing power should create a good demand in that country for agricultural products.

FOREIGN COMPETITION AND DEMAND OUTLOOK - 3

In France the appreciation of the franc has already influenced adversely both domestic and export business and it will undoubtedly have a serious effect for some time. In iron and steel the domestic demand has temporarily almost ceased and unemployment is growing. Cotton buying which has been on a satisfactory scale during the past year is tending toward a hand-to-mouth basis on account of the currency uncertainty. Should the currency be stabilized in 1927 as some believe likely, there will still be considerable interruption of business during the adjustment period. On the whole, it is likely that France will be a less satisfactory market for agricultural products than in 1926.

The outlook in Italy is even less satisfactory than in France. The increase in gold wholesale prices and the appreciation of the lira have weakened the country's export advantage and unemployment may be much more serious than in France. There is a marked depression in the cotton industry with poor prospects for new foreign business.

In Belgium the stabilization program of the Government has evidently been successful and there seems to be optimism as to future conditions. Readjustments which must follow stabilization, however, are expected to cause a temporary depression and probably to curtail imports. Denmark and Norway are undergoing depression and no immediate improvement in economic conditions is expected.

Poland has recently profited greatly by the British coal strike. It is now faced with the problem of finding markets for industrial products. The most natural market is Russia and the scarcity of capital in both Poland and Russia will make an expansion of trade difficult. The textile industry is in a severe slump and a revival will depend largely upon conditions in Russia.

FOREIGN COMPETITION AND DEMAND OUTLOOK - 4

Czechoslovakia and Austria which depend largely upon conditions in Germany and the Balkan States appear to have a favorable outlook for 1927. With low cotton prices Czechoslovakia will probably import more cotton than during the past year.

In spite of the extremely uncertain political conditions prevailing in China the exports of agricultural products from the United States to that country were materially larger in 1926 than in 1925. The increase in the exports of tobacco to China was particularly noteworthy. Unless the situation becomes acute in Shanghai and the northern ports, the unsettled conditions are not likely to affect materially the demand for such agricultural products as China takes from the United States. Japan also took more agricultural products from the United States in 1926 than in the preceding year. The flour milling and cotton manufacturing industries are now somewhat depressed and it seems probable that Japanese purchases of American cotton in 1927 may be less than in 1926.

Foreign competition in wheat production is likely to be about as strong as it has been this year with some reduction in the demand from importing countries. Wheat areas in Argentina and Australia are likely to be maintained if not increased and, should weather conditions permit, the spring wheat area in Canada is likely to be expanded. Larger crops are also probable in India and Russia where conditions appear favorable for seeding larger areas. The European demand on the other hand is likely to be reduced somewhat by a larger crop of wheat and possibly better rye and potato crops. The continuation of a favorable market

for durum depends upon weather conditions in North Africa and southern Italy where short crops were harvested this year. The tendency is for competition to increase in the case of durum as in the case of other classes of wheat.

With easier credit and improving economic conditions the United Kingdom and Germany will probably continue to buy large quantities of cotton as long as prices remain at a low level and there may be some increase in demand for cotton goods. Foreign consumption in general, however, is not likely to increase as rapidly as takings so that stocks may be considerably increased at the end of the present season which may have the effect of reducing purchases through next season. In Germany spinning and weaving activity was increasing rapidly in the closing months of 1926, stocks were not high and a satisfactory volume of unfilled orders was reported. Reports on the Bremen raw cotton market indicate a lively demand from German, Czechoslovakian and Austrian spinners. Russian takings of American cotton in 1927 appear likely to exceed considerably those of 1926, depending, however, largely upon the ability of the Soviet buying organization to secure necessary credits for long time purchases. Depressed conditions in the cotton industry of France and Italy caused by the unfavorable exchange situation, will probably result in smaller takings of American cotton by those countries in 1927. Acreage planted to cotton in foreign countries during the 1927-28 season will probably be somewhat less than during the past two seasons, although this will not materially affect the world supply.

FOREIGN COMPETITION AND DEMAND OUTLOOK - o

The foreign demand for American leaf tobacco of the cigarette type is increasing. The increasing foreign production of the dark types of tobacco used for chewing and smoking, together with the weakening demand, probably will make the market for that tobacco less favorable. All present evidences point to a continuation of the upward trend in the consumption of cigarettes in foreign countries. Great Britain and China, the largest foreign consumers of American tobacco, both increased their takings of this type in 1926, as did also several other countries.

With an apparently increasing domestic production in European consuming countries, it appears that the market for pork products during 1927 will probably be less satisfactory than last year. Increasing supplies of continental cured pork on British markets have resulted in declining prices and may continue to diminish demand in Great Britain for American cured bacon, hams and shoulders. A substantial increase in numbers of hogs in Germany, indicated by the Prussian Census of December 1, 1926, points to heavier marketings in 1927. While there is no evidence of a marked change during 1927 in the European market for American lard, the situation may be affected to some extent by increases in hog production in northern Europe, particularly Germany, Poland and the small Baltic countries and by the large supplies of cottonseed oil.

Evidences of maintained or increased dairy activity in practically every important butter producing region of the world indicate heavier world butter supplies in 1927. The year 1926 has recorded production in

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FOREIGN COMPETITION AND DEMAND OUTLOOK - 7

Denmark and the Netherlands on a par with the high volume of the past two or three year, while production in Germany, the new Baltic countries, Russia and New Zealand has increased. A relieving factor in this outlook is the prospect for some improvement in general economic conditions and better purchasing power in Great Britain. During 1926 the United States continued as a net importer of butter and cheese, the price of butter in New York for several weeks attaining a margin as high as 17 cents above European prices.

Present prospects point to large exports of American apples to Germany and the United Kingdom during the remainder of the present shipping season. Stocks of continental apples in European markets are about exhausted and the damage to the Spanish orange crop will make a place for more apples. Furthermore Australia will have less apples to export this year which will mean less competition in the British market during the last months of the present season. The European market next autumn will depend to a large degree upon the size of the European crop and the price of American apples. The probabilities are that the European crop will be considerably larger than last year and that American apple prices will be higher, both of which would react unfavorably upon our export trade. Dried and canned fruit will probably meet better market conditions in view of the prospect for generally improved purchasing power in Great Britain and Germany.

THE AGRICULTURAL CREDIT OUTLOOK.

While the supply of loanable funds in the country at large is relatively abundant, farmers in many agricultural districts may find difficulty in obtaining adequate credit for production purposes. This difficulty will in some districts be due almost solely to a lack of satisfactory security for additional credit. In other districts, however, the want of local credit machinery due to failures of country banks will also make itself felt. In no case, will any credit difficulties that may exist be due to lack of a credit supply for the country as a whole.

In the field of long-term mortgage and bond credit the present is on the whole a borrower's rather than ^a lender's market and the interest rates on such credit show a distinct tendency downward. While in the short-time commercial money market there has been recent evidence of a slight opposite tendency, the general outlook for those with satisfactory security to offer is for lower rather than higher rates of interest.

Changes in interest rates in the credit and investment centers are generally slow, however, in reaching the rural districts. Particularly is this true of rural districts that are remote from these centers of surplus capital. Nevertheless the downward tendency has been evident to some extent also in agricultural credit rates.

Seven of the twelve Federal land banks are now operating on a 5 per cent rate, three are charging $5\frac{1}{4}$ per cent, and only two of these banks are still on a $5\frac{1}{2}$ per cent basis. A number of the joint stock land banks have also reduced their rates of interest and this group now loans at rates varying from 5 per cent to 6 per cent. Certain other classes of lenders or investors have followed, and in a few instances led, the Federal land banks in a reduction of their rates on farm mortgage loans. This has been particularly true in the best parts of the corn belt

THE AGRICULTURAL CREDIT OUTLOOK CONT'D.

in the Middle West, which constitute a favorite field for farm mortgage loans, loans by life insurance companies.

The Federal intermediate credit banks have also reduced their interest charges during the past year. The rates on loans direct to cooperative associations have been lowered from 5 per cent to $4\frac{1}{8}$ per cent and the rates on rediscounts for agricultural credit corporations, livestock loan companies, local banks, and other credit institutions making loans to farmers have been reduced from 5 to $4\frac{1}{8}$ per cent. Assuming that these banks continue to operate with reasonable conservatism and retain the confidence of the investing public in their debentures, there is no apparent reason why the present relatively low interest rates should not be maintained.

The rediscount rates of the Federal reserve banks stand at 4 per cent in each of the twelve Federal reserve districts, and this figure applies to agricultural and livestock paper with 90 days to nine months maturity, as well as to commercial paper maturing within 90 days.

Hitherto the costs of production credit, especially in the cotton belt, have reflected established custom as to rates and terms rather than any existing situation in the money market. The increasing number of agricultural credit corporations and livestock loan companies organized specifically to take advantage of the rediscount facilities afforded by the intermediate credit banks, should tend to make rates on such credit reflect to some extent the abundance of loanable funds in our money centers.

THE FARM LABOR, EQUIPMENT AND FERTILIZER OUTLOOK

Farm Labor: The prospect that industrial employment will be less in the first half of 1927 than in 1926 indicates that a slightly larger supply of farm labor will be available in those regions adjacent to industrial centers, and wages may be lower.

In the South there will undoubtedly be a tendency to use as little hired labor as possible. Those who must of necessity hire labor for this year's operations will probably secure it at lower wages than prevailed in 1926.

In the Great Plains Area the increasing use of the combine for harvesting and an earlier grain harvest could result in a more plentiful supply of labor and lower wages during harvest.

Farm Machinery: No material changes in the price of farm machinery are to be expected during 1927 as compared with 1926.

The general level of wholesale prices of metals and metal products has been practically stationary since the early part of 1925. The general level of industrial wages has been practically constant for the past year. Since these two factors represent the major costs of farm machinery, it appears probable that wholesale prices of farm machinery for 1927 will continue on the same level as those of 1925 and 1926 which were slightly lower than the prices prevailing in 1923 and 1924.

Building Materials: The prices of building materials in 1926 remained at about the same level as in 1925. With the probable decline in building activity in the cities during 1927 no increase in prices is to be expected. Possibly, they will be lower.

Fertilizer: The general level^{of} wholesale fertilizer prices, both materials and mixed goods, were about five per cent lower in November, 1926, than a year previous. At the present time the wholesale price of Acid Phosphate, Nitrate of Soda, Sulphate of Ammonia, and Cottonseed meal are all lower than a year ago, while Muriate of Potash is slightly higher. The supply of all the principal fertilizers is plentiful and the movement slow. The expected decrease in cotton acreage and the lower wholesale price level should cause retail prices, especially for nitrates and phosphates, to be lower than last year.

THE COTTON OUTLOOK.

Only a drastic curtailment of cotton production the coming season will restore the balance between consumption and supply at remunerative prices to growers. Presuming average yields, a reduction of 30% in acreage appears necessary to give the greatest gross value to the next crop.

A burdensome supply of American cotton for the ^{next} 12 to 18 months seems inevitable. With an estimated 1926 production of 18.6 million bales and a world carryover of American cotton on August 1, 1926, estimated at from 5.4 to 5.7 million, the supply this year totals 24.0 million bales, or more; as compared with approximately 19.4 in 1925-26; 16.3 in 1924-25; and 13.5 million bales in 1923-24.

The world's consumption of American cotton for the 12 months ending July 31, 1926, was about 14.0 million bales. Since that time consumption in this country has proceeded at a record rate. Assuming a continuance of consumption at the same rate in this country, and allowing for some further acceleration of mill activity abroad, a total world consumption for the present year of 15.0 to 15.5 million bales is ^{quite} possible. A 15.0 million bale consumption, exclusive of linters, would equal the record established in 1915; and a 15.5 million bale consumption would set a new world record. In either case, the probable carryover at the end of the present season would be from 8.5 to 9.0 million bales, or at least 3.0 million bales more than the year before.

Previous years of low cotton prices have been followed by lower yields and reduced acreages. The reductions in yields in such years have been approximately 20 to 40 pounds, with a maximum reduction of 54 pounds in 1921, part of which, however, was due to excessive weevil damage. Should an average reduction of 30 pounds take place from the yield of 187 pounds in 1926, the yield in 1927 would approximate 157 pounds, which is the average yield for the past ten years. The maximum reduction in acreage in any one of the past 24 years was 14.7 per cent; but of those years in which there was a reduction in acreage, the average was only 10 per cent. With only a 10 per cent reduction in acreage, and a yield equal to the 10-year average of 157 pounds per acre, a production of 14.1 million bales would result. If past relationships of prices to supplies hold for 1927, the maximum income to growers next season would likely result if production were 11.0 million bales or a little less. For a crop of 11.0 million bales with average yields an acreage reduction of about 30 per cent would be necessary.

The difficulties of effecting an adequate reduction of acreage under existing conditions must be recognized. In the absence of other suitable money crops, the farmer is inclined to plant as much cotton as he can finance and cultivate. Then, too, there is the tendency of many growers to leave the reduction of acreage to their neighbors. With a probable carryover of 8.5 to 9.0 million bales confronting farmers on August 1, 1927, the situation is

one requiring the best thought as well as the cooperation of all cotton growers. The wisdom of their decisions will determine their well-being another year.

A factor which may affect the demand for the next crop is the present high rate of domestic consumption and of exports. The larger amount of cotton which is now entering the various channels of distribution in the United States and abroad, a part of which is going into stocks, may tend to reduce the demand for raw cotton next season. Such seems to have been the case in previous years of large domestic consumption and exports.

Foreign production in the 1926-27 cotton season appears to be somewhat less than in the previous season, and with increased world consumption of all kinds, stocks of foreign cotton at the end of this season will probably be less than the year before. Decreased stocks of foreign cottons and reduced acreages abroad are likely, however, to have only a minor effect on the prices of cotton in the United States, since domestic prices are as yet determined chiefly by the supply of American cotton. On the other hand, important price changes in this country have a decided influence on acreages in certain foreign countries, a high price here increasing and a low price decreasing their plantings.

Though boll weevil damage has been light the past two seasons, the indications at present are for increased infestation during the growing season of 1927 over that of 1926, provided weather conditions

are normal for the first eight months of the year. Severe cold weather or frequent alternations of temperature from extreme cold to warm, and vice versa during the winter months, would materially reduce the numbers of weevils living over winter. Likewise, an extended dry, sunny period, after the cotton commences to square, would retard boll weevil propagation. On the other hand, consistent moderate winter temperatures would insure a plentiful supply of weevils in the spring, and cloudy and wet summer weather would favor weevil propagation.

Weather conditions thus far are otherwise very favorable to cotton production this coming season. There is an abundance of moisture in the soil throughout the cotton belt, particularly in the semi-arid region, where the moisture content of the soil and sub-soil at planting time is a determining factor in the production of the crop.

Indications point to slightly lower costs of production per acre than in 1926. The cost of fertilizer will probably be somewhat lower. On the whole, less labor will be hired. The cost of keeping mules will be slightly less, due to the relative abundance of corn and forage available in most sections. The cost of farm machinery will probably be about the same as in 1926. These comprise the major items in production costs.

Important changes taking place in methods of cotton production should not be overlooked in considering costs. A growing shortage of cotton labor and the suitability of the more level lands to machine methods of production have encouraged the use of improved farm implements in the valleys and on the semi-arid areas of the cotton belt.



By the use of traction plows and cultivators in the western end of the belt, the acreage tilled varies from about 150 to 200 acres per man.

To the newer methods of cotton growing employed in the more level, semi-arid sections, a new method of harvesting known as "sledding" has been added. Sleds were first used for this purpose in an extensive way during the last days of October, 1926. Almost immediately their use became so general in western Texas and Oklahoma as to displace rather abruptly the pickers and snappers. One man can "sled" from two to three bales of cotton a day at a cost of about three dollars a bale. The cleaning equipment on gins was immediately modified to handle sledded cotton.

Many cotton growers will no doubt experience some difficulty in securing the full amount of their customary credit advances. Though loanable funds exist in relative abundance and interest on the whole shows a downward tendency, lenders will doubtless be more than usually cautious both in the amount advanced and the rate of interest.

Taken as a whole, the outlook for cotton production the coming season is none too encouraging. Unless the acreage is definitely restricted or the season unfavorable, the prospect is for a large supply another year. Due in part to the planting of indifferent seed, in part to weather damage and in part to new methods of harvesting, the grade and quality of the past two crops have not been as high as they might have been. Costs of production have tended to rise, especially in the older sections. The chances, therefore, for profitable production the coming season are best if the crop is small, the grade and staple improved, and the costs held to the minimum.

THE WHEAT OUTLOOK

With the area devoted to wheat production in important wheat producing countries expanding, spring wheat growers can scarcely expect to receive prices for the 1927 crop similar to those which have prevailed for the 1926 crop, especially if acreage should be materially increased. The relatively high prices received for the 1926 crop of hard red spring wheat have been due to a partial failure of the crop in the United States, while the relatively high prices for durum wheat this year have been due almost entirely to an unusually short crop in North Africa and Southern Italy, as well as in the United States.

With average yields and average abandonment, the increased acreage already seeded in the hard winter States would result in a total crop of hard red winter wheat in the United States in 1927 somewhat less than in 1926, but well above the 10-year average. On the other hand, indications are for a somewhat smaller crop of soft red winter wheat. While indications are that at average yields, with the same acreage, the returns from spring wheat in 1927 will compare favorably with the returns from other spring grains grown in the same area, a material increase in the spring wheat crop might result in comparative returns much less favorable.

The World Situation: Present prospects are that the world carryover of old wheat at the end of the year will be somewhat larger than last year, when it was low, and that there will be some increase in the area of wheat to be harvested in 1927. Estimates of production of wheat in 1926 in all

The first step in the process of the development of the new system was the establishment of a working group. This group was composed of representatives from the various departments and was charged with the task of studying the existing system and recommending changes. The group met regularly and held several public hearings to gather input from the public. The results of these hearings were used to develop a draft plan for the new system. This plan was then presented to the Board of Directors for their approval. The Board approved the plan and the working group began the implementation process. The first step in the implementation process was the development of a detailed schedule of work. This schedule was then used to assign tasks to the various departments. The implementation process was completed by the end of the year.

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WHEAT

countries reporting to date indicate a world crop, exclusive of Russia and China, of approximately 3,441,000,000 bushels compared with 3,400,000,000 bushels in 1925. The collection of wheat for export and domestic distribution in Russia from the 1926 crop to date is reported to be larger than the previous year. Reports from China indicate that crop conditions have been such that there may be a slight increase in imports into that country.

The above indicated increase in wheat production is not in itself sufficient to cause the world carryover on July 1, 1927, to be materially greater than it was on July 1, 1926, when it was low, but the distribution of the 1926 crop is such that there likely will be some increase in stocks in exporting countries, particularly the United States, Argentina, and Australia, which have larger crops than last year. However, this increase may be partially offset by smaller supplies remaining on hand in Europe. Stocks in importing countries are likely to be reduced to a minimum since their crops have been smaller than last year, and ocean freight rates have been increased so as to discourage the importation of more than may be necessary to supply their current needs. Freight rates have recently tended downward.

The world wheat area last year, outside of Russia and China was the largest since the war, and probably the largest ever sown. While European producers are recovering from the effects of the war, our non-European competitors continue to expand their areas. The acreage in Europe, exclusive of Russia, increased from 63,800,000 acres in 1921 to 69,300,000 acres last year. Reports of winter seedings received to date indicate further increases in many European countries. Reports from Russia, Germany, and Czechoslovakia, definite-

WHEAT

ly point to an increase in wheat area, partly at the expense of rye. Similar reports from France, Spain, Italy, and Hungary, also indicate that fall seedings have been equal to or larger than last year in those countries. In the meantime, Canada has maintained her acreage slightly below, but close to, the high figure of 23,000,000 acres for 1921, while the area in Argentina and Australia increased from 24,000,000 to 40,000,000 acres. Weather permitting, conditions are favorable for an expansion of the wheat area of Canada.

While an expansion in area increases the probability of a large crop, the actual outturn of course depends very largely upon yields. Yields in the past year were about average, except in North Africa and Southern Italy, where they were low, and in Argentina and Australia, where they were higher than the average. With average yields next year, therefore, production would be increased as area increased.

THE SITUATION IN THE UNITED STATES

Winter Wheat: The area seeded to winter wheat in the United States in the fall of 1926 is estimated to be 41,180,000 acres, which is 5 per cent over the area seeded in the fall of 1925, and 8 per cent more than was seeded in the fall of 1924.

The hard red winter wheat States increased their acreage 6.5 per cent. This increase is rather significant from the standpoint of the hard spring wheat grower because of the competition between these two classes of wheat.

In the white wheat States of the Pacific Northwest, the favorable moisture and other conditions at seeding time resulted in the expansion of 15.5 per cent in the area seeded. An increase in the winter wheat



WHEAT

acreage in the Pacific Northwest in the past, however, has not always pointed to an increase in the total area of white wheat, but generally has resulted in a somewhat smaller seeding in the spring. Even if this situation develops in 1927, the present acreage in white wheat at average yields is more than sufficient to maintain the United States on an export basis on this class of wheat. With the Australian crop of 1926 larger than last year, and with an expansion of acreage going on in that country, the prospects are for increased competition in the export market for Pacific white wheat.

The soft red winter wheat growers are apparently in a more favorable position than the growers of other classes of wheat, in that the acreage of this crop has been reduced due largely to weather conditions at time of seeding, so that it does not seem likely that with average yields the production will exceed domestic requirements.

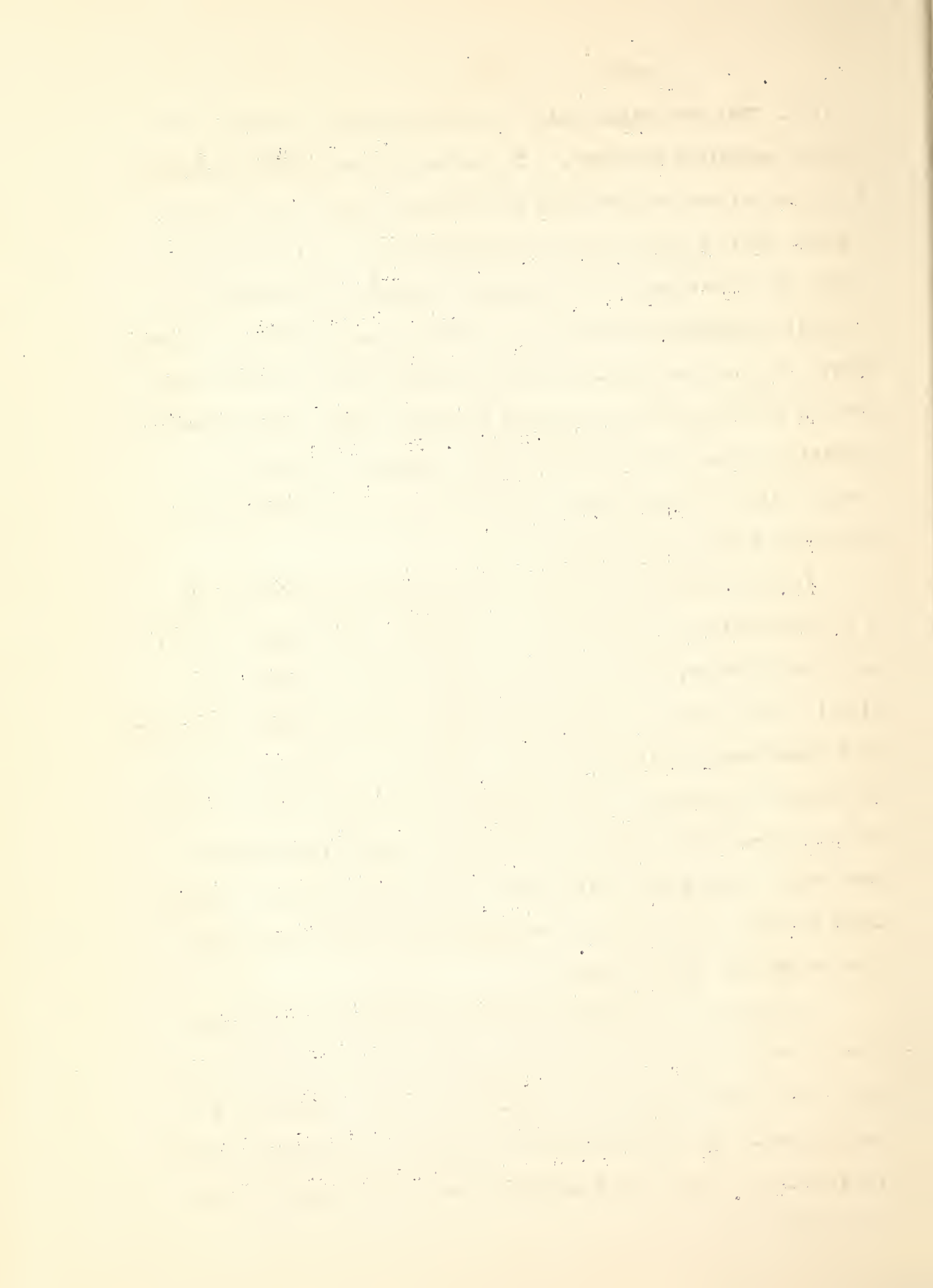
Hard Red Spring Wheat: The prolonged dry weather in the spring wheat area cut the production of both hard red spring and durum wheats in 1926. The relatively short domestic crop of hard red spring wheat coupled with the import duty has resulted in the maintenance of the domestic prices of this class of wheat on a relatively high level. At Minneapolis prices of this wheat have been maintained at a level of about ten cents below the high price of last year. Premiums for protein content for the 1926 crop of spring wheat have averaged lower than for the 1925 crop, due to the large quantity of high protein wheat available.

If average yields are obtained on an acreage of hard spring wheat equal to the acreage in 1926, a production of around 160,000,000 bushels of this class of wheat can be expected in the United States

in 1927. This production would be about 6 per cent above the 7-year average production 1920-1926. In view of the probability of another large crop of hard winter wheat in the United States, spring wheat farmers should realize that any material increase in the area of spring wheat this year, even with average yields, may result in a production sufficient to put us on an export basis for all hard wheat. Spring wheat farmers should watch the condition of the winter wheat crop of the United States and other important winter wheat producing countries between now and planting time. Excessive losses from winter killing of hard winter wheat might make it desirable to increase the hard spring wheat acreage.

In those areas in the spring wheat regions in which there is a bad infestation of weeds such as sow-thistle, quack grass, and wild oats, some farmers, who are not pressed for immediate income, may find it advantageous to increase their area of summer fallow this year, or to substitute a cultivated crop. An increase in feed crops such as barley, fodder-corn and sweet clover are likely to prove profitable on those farms where sufficient livestock is available to market such crops in the form of livestock and livestock products, particularly on those farms which now are growing 50 per cent or more of their total crop area in wheat.

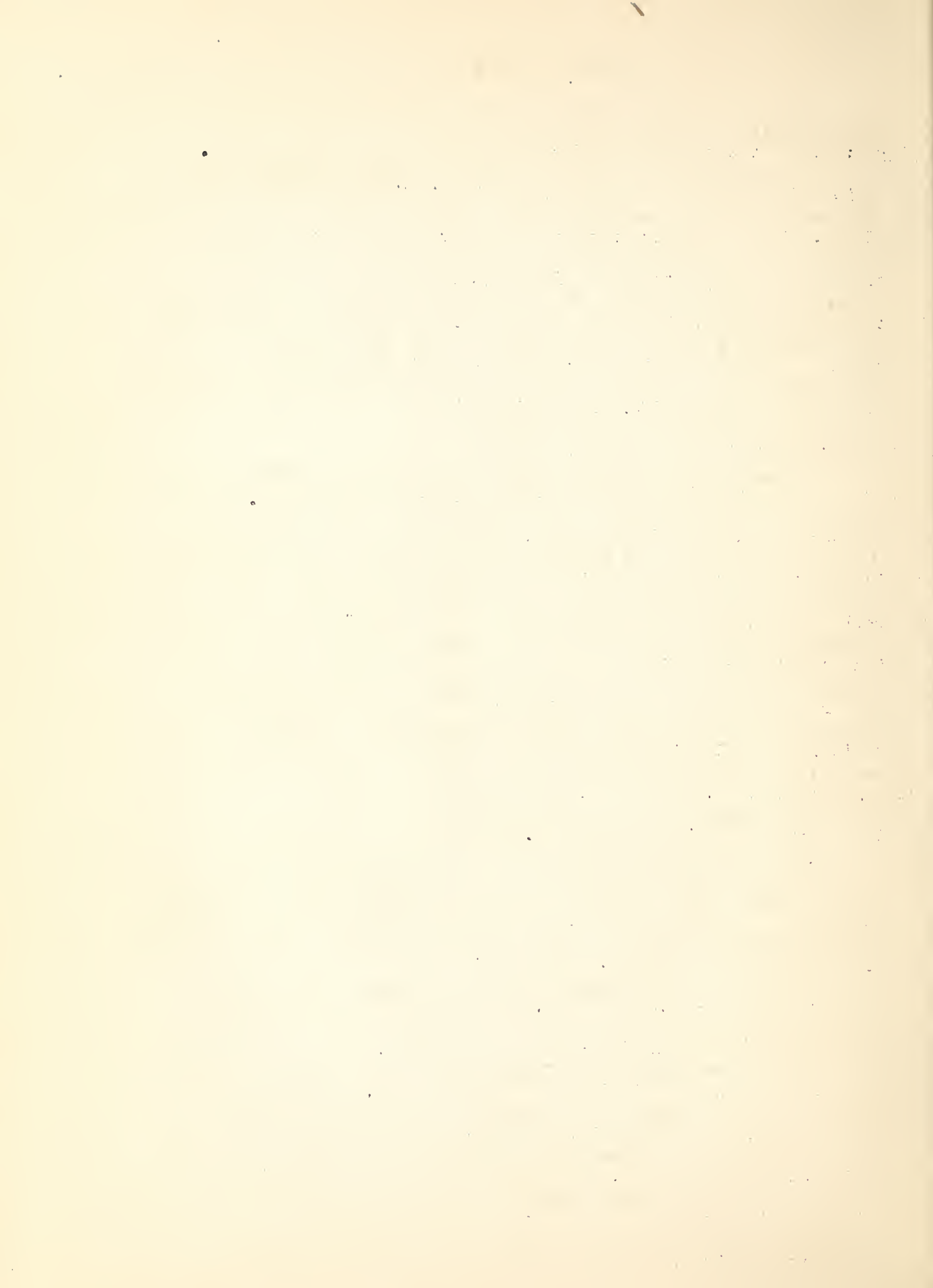
As between the strictly cash crops of wheat and flax, there is no apparent advantage in net returns to be expected from one over the other if yields for the two equal to the average of the regions are obtained. On poor or weedy land, however, on which flax yields are likely to be low, more favorable returns can be expected from hard spring wheat.



Durum Wheat: The outlook for durum wheat depends almost entirely upon crop conditions for the season in 1927 and yields in North Africa and Southern Italy. The relatively high prices of durum at the present time are due to the short crop both in the United States and important foreign countries in 1926. The prices of Amber Durum at Minneapolis have averaged 10 cents a bushel higher in the last six months of 1926 than for the same period in 1925, and at times this wheat has sold at a premium over other classes of wheat.

Early reports from North Africa concerning the fall seedings indicate a less favorable condition than last year. Some reduction in area is reported, but last year the crop turned out poorly following favorable conditions in the early part of the year. Increased competition from Canada and Russia is also possible. Russian production appears to be recovering gradually and durum production is increasing in Canada. The Canadian inspections to date for this season already exceed 6,000,000 bushels, which is a greater amount than the total inspections of the crop of 1925.

An acreage in the United States equal to the 1926 acreage with average yields would result in a total production in 1927 of approximately 60,000,000 bushels of durum. This production would about equal the 7-year average production, 1920-1926. Should this acreage be seeded in the United States in 1927 and average yields be obtained, and yields in North Africa and Italy be average or above, the position of durum wheat is likely to be similar to its position in 1925, when it was selling on an export basis. Farmers contemplating the growing of durum wheat should watch very closely reports of crop conditions in Northern Africa and Italy between now and planting time.



The Flax Outlook.

Where flax can be produced profitably at present prices some increase in acreage could be made without increasing production sufficiently to materially affect prices, as domestic requirements are still well above probable production on an acreage equal to that of last year. Another large crop of flax in Argentina this year makes it improbable that prices for the 1927 crop of domestic flaxseed will be any higher than were received for the 1926 crop. Although the demand for linseed oil may slacken somewhat in 1927, requirements of flaxseed for all purposes are likely to remain around 40,000,000 bushels.

The United States flax acreage in 1926 was estimated at 2,897,000 acres, with an average yield of 6.7 bushels per acre, resulting in a crop of 19,459,000 bushels. An increase in acreage in 1927 of 10 per cent with a yield as high as 8 bushels per acre would result in a crop some 14,000,000 bushels below last year's domestic consumption of flaxseed. Should the highest yield on record, 9.7 bushels be equaled, the supply would still be below domestic requirements although such a large crop would no doubt exert considerable influence on prices.

With another large crop of 69,000,000 bushels now being harvested in Argentina the world's supply of flaxseed is approximately the same as a year ago when that country secured a record crop of 75,000,000 bushels. The world crop so far as reported is about 5 per cent smaller than last season, but trade reports indicate a larger carryover than usual of old seed in Argentina and India.

Flax - 2

About 67,000,000 bushels were exported from Argentina and 11,000,000 bushels from India during 1926, indicating that the world demand for flax-seed was sufficient to absorb such a large surplus, but at lower prices. These lower prices were reflected in the United States markets, the 1926 crop having been^{largely} marketed at prices ranging from 20¢ to 40¢ per bushel below those received for the 1925 crop.

Probable relative yields and prices should be taken into account in deciding whether to increase the area of flax at the expense of spring wheat or oats. With average yields of wheat and of flax the net returns per acre from wheat selling at \$1.00 per bushel would be equivalent to those from flax selling at \$1.45 per bushel. At these average yields wheat at \$1.25 per bushel would be as profitable as flax at \$1.80, while with wheat at \$1.50 flax would have to sell at \$2.15 per bushel to be as profitable. Spring wheat yields in the four spring wheat States, Minnesota, South Dakota, North Dakota and Montana, have averaged 12 bushels per acre for the past five years, while flax yields in the same States averaged eight bushels per acre.

Flax does well following a legume crop, especially sweet clover or red clover, and on corn land where the corn has been well cultivated and kept free from weeds. On land where flax is likely to produce a good crop farmers may find it^a more profitable crop than spring wheat. The decreasing demand for oats as a feed crop also suggests that where oats are grown for market farmers may well consider whether flax might not produce a greater money return.

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THE RYE OUTLOOK

The price outlook for the 1927 crop of rye, judging from prospective supply and requirements indicates little change from the present situation. Reports indicate a reduction in the area seeded throughout the world, but with average or better than average yields, the production in 1927 may make the total world supply equal to or greater than in the past year.

The acreage seeded for harvest as grain in 1927 (3,579,000 acres) in the United States is only slightly larger than for last year and very much below the acreage harvested in any other year since 1916. With average yields a production of around 47,000,000 bushels can be expected. The yield per acre for the last two years has been about two bushels below the ten-year average, which is 13.5 bushels, and domestic stocks are not high. However, domestic production has but little influence on prices because of the small part of the crop produced in this country and the returns to growers depend very largely on the world situation.

World production in 1926 in the countries reporting to date amounts to 807,000,000 bushels, which is 20 per cent below production in 1925. This reduction is largely due to changes in yields as the estimated acreage for 1926 was only slightly less than in 1925. The average yield of rye per acre in Europe, exclusive of Russia, was only about 19 bushels as compared with 23.5 in 1925 and the pre-war average of 21.7 bushels. Exports from Russia have been small. With this reduction in supplies the carry-over at the end of the year is likely to be small. Reports to date indicate a further probable reduction of the world area in rye. Reports from Germany, Czechoslovakia and Russia indicate a reduction in rye area in favor of wheat.

The Rice Outlook

The too rapid expansion of acreage sown to rice has resulted in a present United States production in excess of demand at satisfactory prices. Some reduction in acreage rather than further increase appears advisable. Substitution of soybeans for part of the present rice acreage in Louisiana, Texas, and Arkansas, and the adoption of a rotation of soybeans with rice, would serve to reduce rice acreage and decrease production costs at the same time. Domestic demand for rice may be increased by shifting production to good table rice types.

The present unsatisfactory rice situation is due to a change in the trend of production in this country. Before the war rice production in the United States was increasing gradually along with the increase in population, but did not equal domestic requirements until in 1914 when production was greatly stimulated by the war, reaching the high point in 1920, with a resulting great decline in prices. Stocks had accumulated and prices continued to decline, reaching a low point in 1922. In the meantime the area in rice was being reduced and consumption was increasing. The result was a rise in prices from the low point in 1922 to a point in 1924 high enough to again stimulate increased seeding. The area sown in 1925 was in excess of apparent needs, but an unfavorable season forced the abandonment of about 10% of the acreage sown, so that the crop produced was but little more than sufficient to meet the requirements of Continental United States, Hawaii, and Porto Rico and to this is to be attributed the satisfactory prices for the 1925-26 season. The effect of these satisfactory prices, however, was to cause a further increase in 1926 of 2 per cent over the area seeded in 1925, and this

together with good yields, increased the production 24 per cent, bringing it back nearly to what it was in 1922, or nearly to the level of the war years.

Rice stocks at the beginning of the season, August 1, 1926, were also the largest since the beginning of the 1923 season. The increased supply and low prices for this season are likely to result in larger stocks to be carried over into the next season.

The foreign outlook remains unchanged. Reports received to date indicate a world crop little if any larger than last year. The crop of Japan, the principal foreign market for California rice, is smaller than last year, but the increase in the supply of California rice together with the heavy early marketing of the native rice appears to have been sufficient to depress the market and reduce temporarily at least the premium paid for that rice in Japan. The producers of Louisiana, Texas and Arkansas also lost their advantageous position of 1925 by producing more than the domestic requirements, including the requirements of Porto Rico, a protected market. The increased supply of 1926 compels these producers to seek an outlet for a considerable part of their crop this season in Europe and Latin American countries, where they must meet competition of cheap rice from the Orient.

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The Oats Outlook.

Should the acreage of oats in 1927 be maintained at the 1923 level and a yield equal to the 10-year average be secured, this would result in a production almost as large as the crops of 1924 and 1925 which were principally responsible for the low price levels prevailing since these harvests. The relatively low production in 1926 brought about a slight increase over the 1925 price level while the low quality of the crop estimated at 79 per cent of normal as compared with an average of 89 per cent strengthened the market for the top grades.

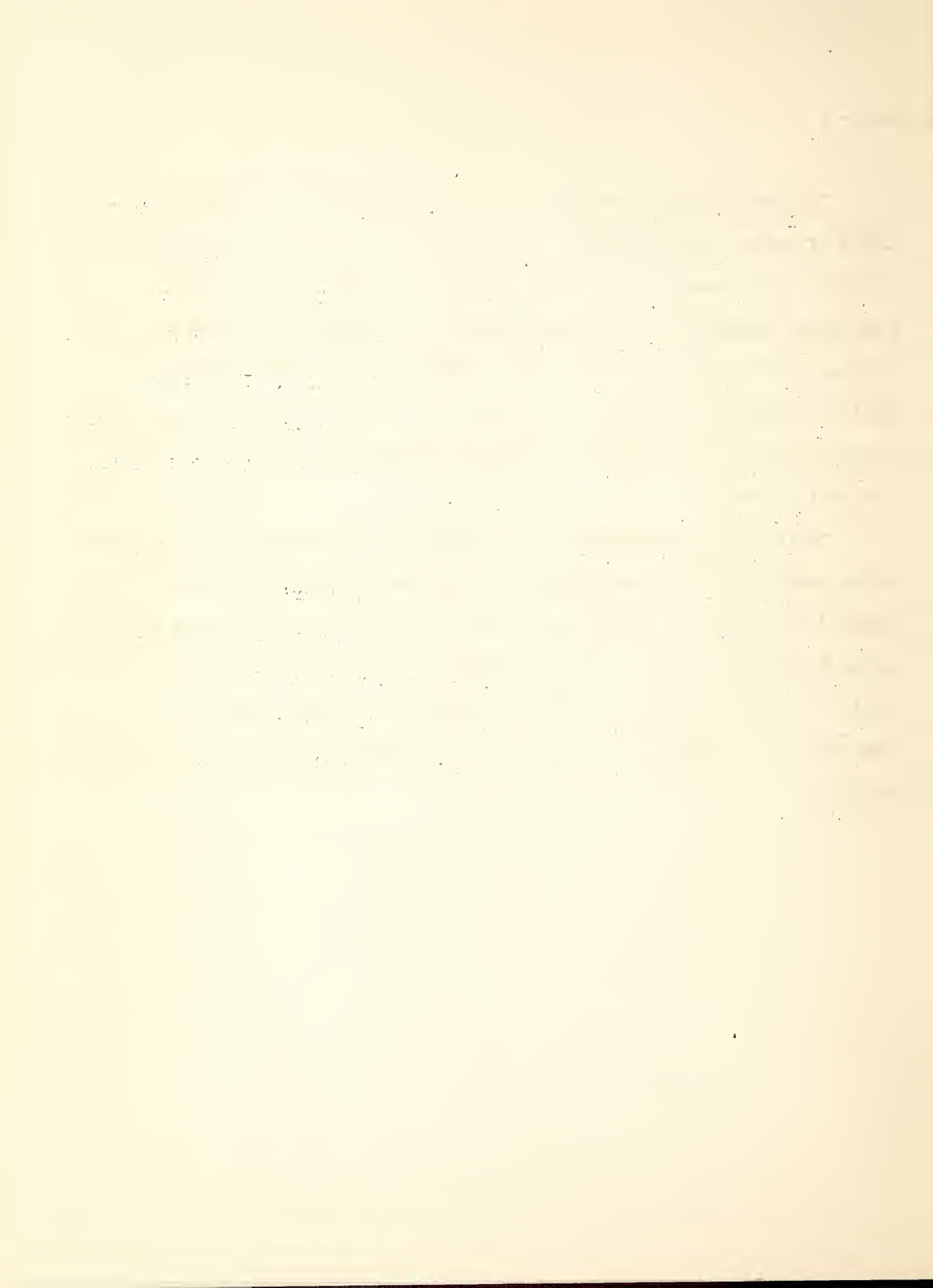
Although the oats crop in 1926 amounted to only 1,254,000,000 bushels against 1,488,000,000 bushels in 1925, the carryover on August 1, 1926, was 30,000,000 bushels more than that of the preceding year, making the total supply only about 200,000,000 bushels less than that of last season. Marketings for this year, however, as measured by receipts at principal markets from August 1 to January 8 have been considerably less than last year, amounting to about 6.3 per cent of the production against 8.8 per cent of the 1925 crop during the corresponding period last year. As a result of the lighter demand, however, commercial stocks are still large although about 25 per cent below the same date last season.

The oats market is almost wholly on a domestic basis as only a small percentage of the production is exported. Most of the crop is fed on farms; considerable quantities are used in mixed feeds, while a small portion goes into the manufacture of foods for human consumption.

Oats - 2

The dominating factor in the domestic demand is the decrease in the number of oats-consuming animals. There has been a material reduction in the number of horses, which probably represent the largest consumers of this grain. Horse population has declined at an average rate of $3\frac{1}{2}$ per cent per year for the past five years and is still declining. The number of cattle in important feeding areas appears to be smaller than a year ago while the commercial lamb feeding areas are also carrying far below their normal quota this winter.

Taking into consideration the present market conditions, price trends and probable production, maintenance of the last year's acreage cannot be expected to yield more profitable returns to farmers in the principal producing States than in the past year. However, where local conditions favor planting oats instead of other crops or where the oats may be used on the farm either as a feed or hay crop it may be desirable to maintain or increase acreage.



The Barley Outlook.

Demand for feeding barley is not likely to be materially changed during the coming year. The market value will be determined largely by the supply and prices of other feed grains and farmers should take these factors into consideration in determining the barley acreage for the coming year. Where barley can be grown advantageously for home feeding it appears to offer better returns than oats. Even in those States where the bulk of the crop is marketed, barley, in recent years, has shown a higher gross return per acre than oats.

The foreign demand for feeding barley appears likely to remain dull during the remainder of the season because of the large European supplies of low grade wheat and rye in addition to the usual supplies of barley and oats. There is also little prospect of any appreciable improvement in the export demand for malting barley ^{grown in} the Pacific Coast States during the remainder of the season because of a good supply in the Southern Hemisphere and continued offerings of good quality British barley on the English markets.

The domestic barley crop in 1926 was 12 per cent less than in 1925 but 8 per cent above that of 1924. California produced another large crop following the good crop of 1925. In the Dakotas, Nebraska and Kansas, however, severe droughts reduced production and this was only partly offset by the exceptionally heavy crops in Oklahoma and Texas. The world crop, exclusive of Russia and China, as reported to date was about 95 per cent of the 1925 crop. The European crop is about the same as in the preceding year but the crop in Czechoslovakia, which is the chief source of the Continental supply of malting barley, was somewhat below that of 1925. North Africa harvested a ^{small} crop last year and unless conditions up to the harvest time in April should be very unfavorable some increase in production in these countries seems probable.

The first part of the paper is devoted to a discussion of the general principles of the theory of the structure of the atom. It is shown that the structure of the atom is determined by the laws of quantum mechanics, which are based on the principle of the conservation of energy and the principle of the conservation of momentum. The second part of the paper is devoted to a discussion of the experimental results obtained in the study of the structure of the atom. It is shown that the experimental results are in good agreement with the theoretical predictions of quantum mechanics. The third part of the paper is devoted to a discussion of the applications of the theory of the structure of the atom. It is shown that the theory of the structure of the atom has many important applications in the fields of physics, chemistry, and biology.

United States exports of barley for the first half of the season 1926-27 have been just about half of the exports for the same months of the preceding season. The decrease has been general from all sections of the country although Pacific Coast exports have held up better than those from the eastern ports. Exports of barley from San Francisco from June to the first of January totaled approximately 175,000 tons compared with about 242,600 tons for the same period in 1925. This is a much greater reduction than would be indicated by the slight reduction of 4,000 tons in the California crop. The slack demand has also been reflected in the movement to market. Only about 227,000 tons were received at San Francisco for the 7 months June to December, inclusive, compared with about 343,000 tons for the same period in 1925. Stocks at terminal and interior warehouses in California on December 1, 1926, as reported by the trade, were about 3,337 tons compared with about 3,672 tons on December 1, 1925. Considering the size of the crop, these marketings to date would indicate that either farm stocks are materially larger than last year or that larger amounts have been used for feed/^{California} farm stocks/on August 1 were about 23,400 tons.

The slack export demand, together with the large crop in the Pacific Coast States, has kept barley prices at a low level in that section. In the northern dairy States from New York to Minnesota there has been a decided upward trend in the barley acreage during the past few years, probably as a result of replacing oats in crop rotation with barley which is a more satisfactory dairy feed. In these States prices have been fairly well maintained.

THE CORN OUTLOOK

Not more than the usual seasonal advance in corn prices from present levels is expected for this spring and early summer. The smaller 1926 corn crop was accompanied by a large increase in farm carry-over and visible supply, and a reduction in demand. The demand for the 1927 crop will be little if any greater. With no positive indications of increased demand for the 1927 crop, and with the probable acreage increases in the South, an average yield would result in another year of low corn prices unless acreage in the Corn Belt is reduced from 10 to 20 per cent.

The total supply of corn on November 1, including corn in storage was only 2 per cent less than a year ago. The corn crop was more widely distributed over the country in 1926 than in 1925, with 67 per cent of the crop in the twelve North Central States in 1926 as compared with 77 per cent the year before.

The December market price of corn showed little change from a year ago when the decrease in general price level is taken into consideration. The average December farm price for the twelve Corn Belt States was practically the same for both years; but for the whole country the average farm price was somewhat lower in December this season than last, due largely to increased production and consequently lower prices in the Southern States, especially Texas and Oklahoma, and the poorer quality of this year's crop. Apparently the small decrease in the farm supply of corn has not been sufficient to offset the lower feeding demand for corn caused by decreases in hogs, cattle and horses.



Corn

The commercial demand for corn is not likely to materially change from last year. There are but slight prospects of any increase in export demand because of good crops in Europe last year and prospects for a good crop in Argentina this year. Exports for November and December 1926 totalled only about 3,600,000 bushels compared with about 4,300,000 bushels for the same period in 1925.

The slow demand for corn for feeding and the unusually large visible supply of corn are also depressing factors in the present corn price situation. On the other hand the decreased supplies of oats and hay in the Corn Belt States have materially increased the prices of these other feed crops and should eventually tend to strengthen the demand for corn.

In the twelve Corn Belt States the total farm supply of corn including farm carry-over on November 1, 1926 was 15 per cent less than a year ago, while the December farm price was practically the same. The increased supplies of corn, oats, cottonseed, grain sorghums, hay and other feed crops in Southern States has not only lowered prices but will also both reduce and postpone the demand for corn shipments from the Corn Belt States. This condition will tend to retard the usual seasonal advance in corn prices.

The demand for corn from the 1927 crop will probably be little if any greater than for the 1926 crop. Continued reductions in horses, and cattle are likely to be enough to offset the possible increase for feeding hogs from larger fall farrowings in 1927. There are no indications now that carry-over next fall will be enough smaller than last fall to materially change the supply situation.

Corn -

Production of corn in unprofitably large volume in 1926 was due to acreage rather than yields, as the average yield was slightly below the ten year average except in Southern States. Corn acreage in the South has decreased nearly 7 million acres since 1920, while acreage in the North Central States has increased about 4.5 million acres since 1920, and is now 3.5 million greater than the average for the years 1909 to 1914.

THE BEEF CATTLE OUTLOOK

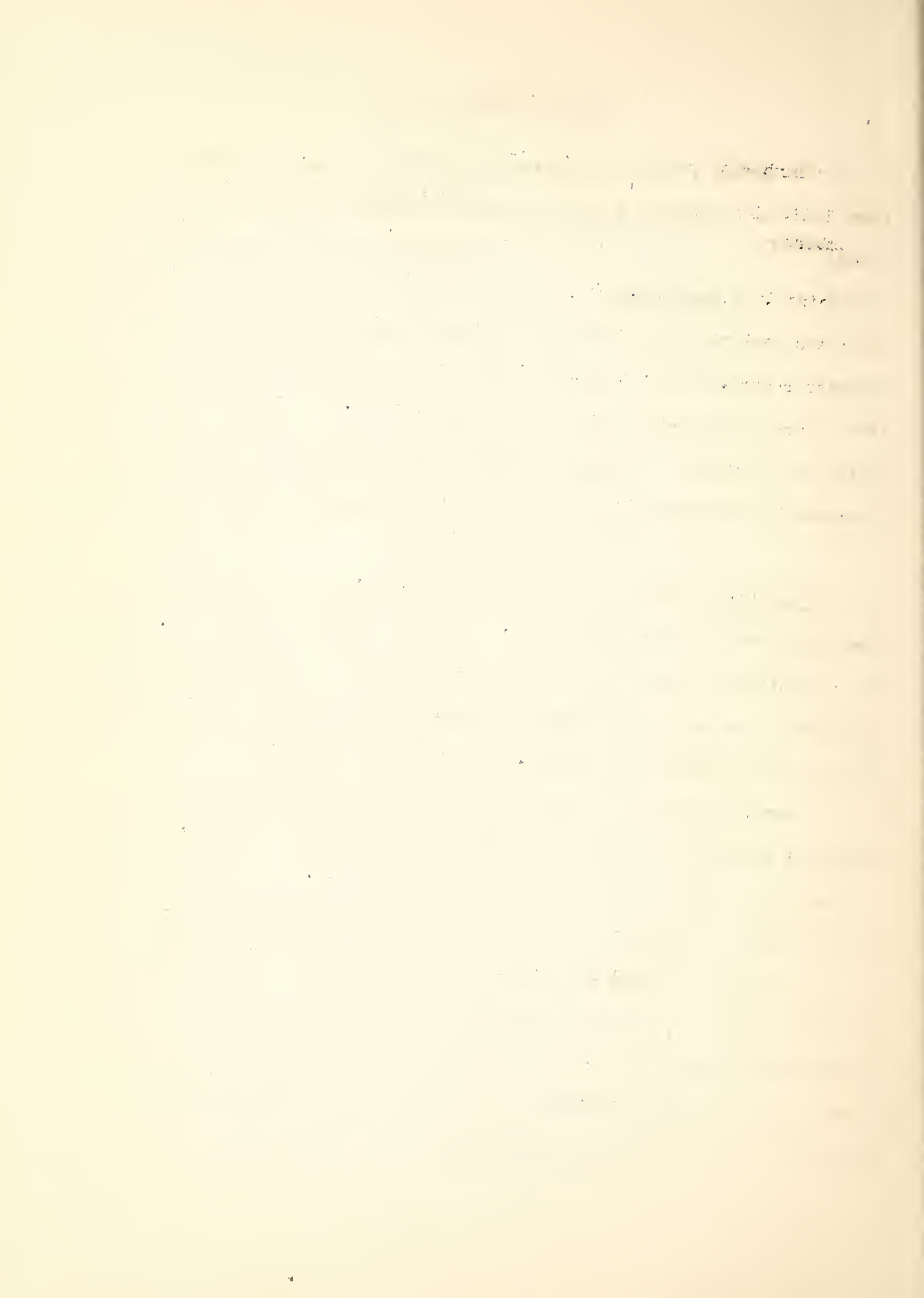
The number of cattle marketed in 1927 will probably be materially less than in 1926. Unusually heavy slaughter of cattle and calves during 1926 reduced ^{numbers} on farms and ranges in the United States to the lowest point in many years. The demand for beef is expected to continue at about the same level as last year when total domestic consumption was the highest on record. No prospects of increased competition from abroad or from other meats in the domestic market are in sight. Prices of slaughter cattle are expected to average somewhat higher than in 1926. Stocker and feeder cattle will probably meet a strong active demand throughout the year.

SUPPLY SITUATION

Domestic: Cattle numbers decreased in 1926, due to the continued heavy slaughter of cattle and calves. The inspected slaughter of cattle was the third largest on record, exceeded only by 1917 and 1918; the inspected slaughter of calves was the second largest, exceeded only by 1925. The combined slaughter was second largest, exceeded only by 1918.

Decreases in cattle numbers between 1920 and 1925 indicated that an inspected slaughter of cattle and calves much in excess of 12,000,000 head a year would result in a further reduction in numbers. The slaughter in 1926 exceeded this amount by nearly three and a third million head.

The estimated number of cattle on farms and ranges in the United States on January 1, 1927, appears to have been materially less than on the corresponding date in 1926. The largest part of this decrease was in the North Central States, especially those west of the Mississippi River. The decrease in this region was caused partly by the severe drought and crop



failure over large areas in Kansas, Nebraska and the Dakotas, and partly by the heavy shipments of fed cattle, not replaced by in-shipments of stocker and feeder cattle. Most other regions showed decreases, except the Southwest, where unusually favorable feed conditions caused a keen local demand for stocker cattle with resultant reduced shipments from those states.

During the first six months of 1927 the market supply and slaughter of cattle are expected to be considerably smaller than in 1926. The number of cattle on feed in the Corn Belt January 1, 1927, was estimated as 7 per cent smaller than on January 1, 1926. This decrease was offset somewhat by larger numbers on feed in some western sugar beet areas and by increased cake feeding in Texas and Oklahoma.

Because of the larger proportion of light weight cattle and of calves in the number being fed this winter the average length of feeding may be longer than last winter with a probable larger decrease in market supply of fed cattle during the first three months than during the spring and early summer. It also seems probable that the marketings of butcher stock and inferior cows during the first six months of 1927 will be smaller than a year ago.

During the second six months of 1927 a rather sharp reduction in marketings of all cattle, both from the farming and ranching sections is to be expected, but if fat cattle prices during the next few months are favorable, the decrease in grain-finished cattle during this period may be small. In view of the present cattle situation a reduction of 10 to 15 per cent in total slaughter of cattle during 1927 is not improbable. The reduction in milk cows and the increasing prices for them, with a general strengthening of all cattle prices, may be expected to reduce materially the slaughter of



calves.

Foreign: There was some increase of beef imports in 1926 as compared with 1925, but ~~in~~ our total consumption foreign beef is still negligible. The heaviest imports have been from Canada with some receipts from Australia and New Zealand. Unless there should be a very marked advance in prices of domestic low grade beef or a further decline in British frozen beef prices, there is little probability of important beef imports during the year 1927.

DEMAND SITUATION

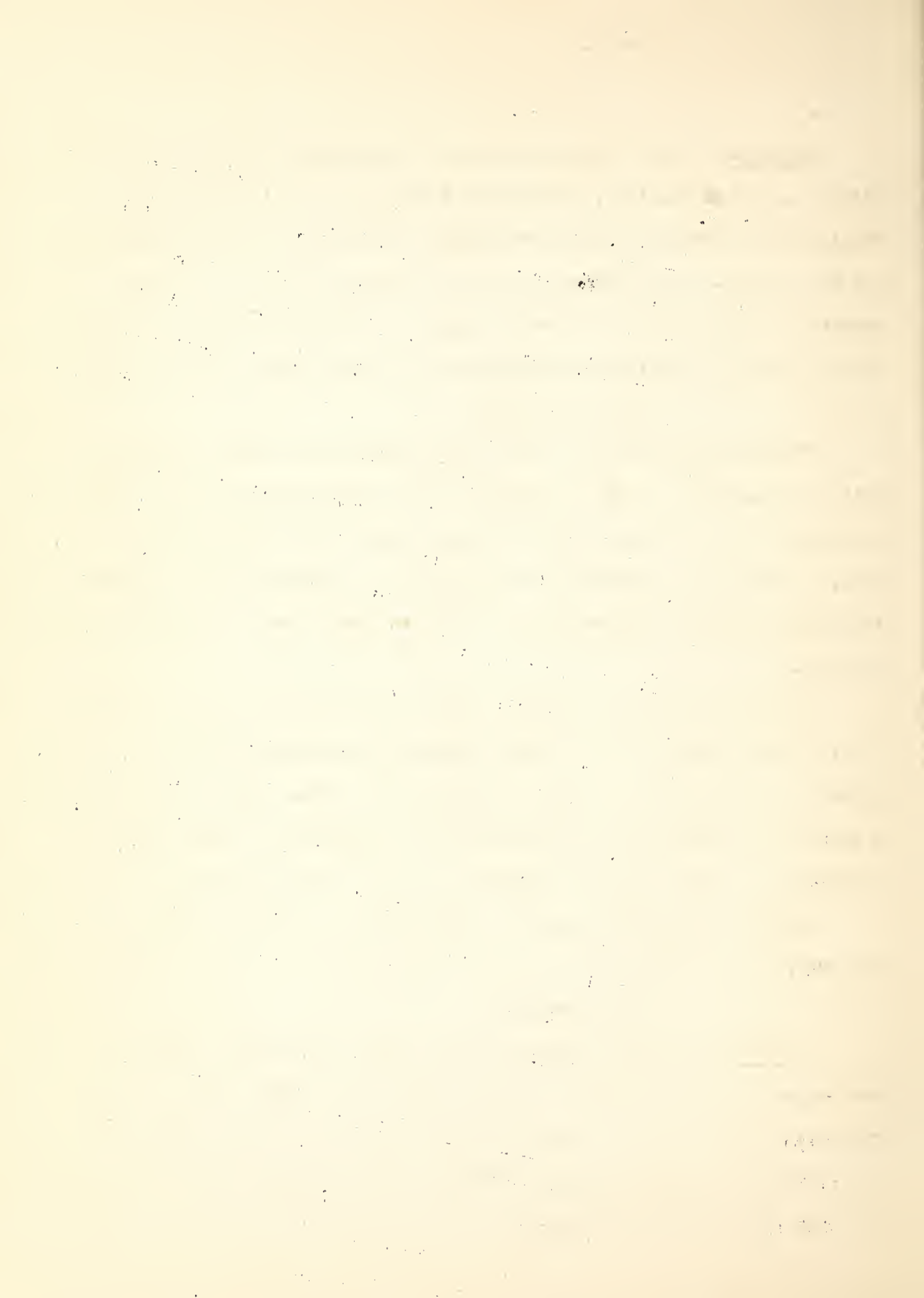
Consuming demand for beef and consequently the demand for slaughter cattle is expected to continue good during the greater part of 1927. Pork is the only one of the major kinds of meat which competes seriously with beef. With present indications of continued small supplies of hogs during the next 12 months no adverse effect on the consumer demand for beef is expected.

Demand for stocker and feeder cattle is expected to be active during 1927. Other conditions being normal presumably such demand will show greatest activity during the last 4 months of the year. Heavy feeder cattle because of their scarcity will probably move best, partly because of the possibility of strong packer competition for that kind of cattle.

An urgent demand for calves will probably be in evidence throughout the year.

PRICE SITUATION

First half of 1927: Slaughter cattle prices during the first six months of 1927 are expected to average somewhat higher than during the corresponding period in 1926. The usual spring decline on better grades will probably be less pronounced than normally. Lower grades, on the other hand, will show their usual spring advance and may exceed that which occurred in



1926. Stocker and feeder prices are expected to equal the relatively high average of the first half of 1926 despite the fact that at the beginning of 1927 they were somewhat lower than a year earlier. This probability will be materially increased if spring opens early and there is reasonable promise of abundant grass in pasture and range areas.

Second half of 1927: Somewhat higher average slaughter cattle prices than in 1926 are anticipated in the fall of 1927. The usual seasonal advance in better grades will probably be more pronounced than in 1926 and although the spread between heavy and light cattle will probably be narrow, the former are expected to sell at a premium. Stocker and feeder prices should average somewhat higher than in the fall of 1926, with heavy weight feeders showing the greatest proportional advance.

On the whole cattle prices in 1927 should continue their upward swing in the price cycle which began in 1922.

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THE HOG OUTLOOK

The outlook for the swine industry for 1927 is favorable. Present information indicates a 1927 market supply of hogs no larger and perhaps smaller than in 1926. Domestic demand is expected to continue strong, but no improvement in foreign demand is anticipated. Hog prices are likely to be maintained during 1927 near the 1926 level. Prices similar to those now prevailing cannot be maintained through 1928 unless hog production is held down to the level of the past two years.

Supplies

The Corn Belt pig crop of 1926, as indicated by the pig surveys, was not more than 1 per cent larger than in 1925. Cholera losses took a comparatively heavy toll, especially from the spring crop. The number of these losses over normal is estimated to have been sufficient to reduce the number of hogs available for market during the 1926-1927 season at least 3 per cent.

Indications are that the greater part of the reduction in market receipts will occur during the winter months. In view of the highly profitable feeding ratio, hogs will probably be held back for feeding to heavy weights and thereby decrease the proportion of total marketings during the winter as was done in 1926.

Market supplies during next summer and early fall will probably be about as large as in 1926. The tendency to hold hogs longer for heavy feeding will also delay the marketings of the 1926 fall pig crop and increase the proportion of these in the market receipts during the late summer, much as it did last year.

The December 1926 survey indicated that there would be little if any increase in the number of sows farrowing in the spring of 1927 in the Corn Belt, which is the principal source of commercial production. With average weather conditions the spring pig crop of 1927 will, therefore, not differ greatly from that of 1926 in this region. Since it is not likely that cholera losses next fall will equal those of last, market supplies for the winter of 1927-28 will probably be somewhat larger than this winter, or about as large as in the winter of 1925-26.

Corn Supplies.

Present supplies of corn are more than ample for hog feeding, as evidenced by present corn and hog prices. Unless greater reductions in corn acreage are made in 1927 than are usually made under similar price conditions a yield as low as 1924 (average 22.9 bushels per acre) would provide ample supplies of corn at no material increase in corn prices. As the present hog numbers insure greater returns to farmers than larger numbers, conditions warrant decreasing corn acreage to bring about a better relationship between hog and corn prices rather than raising more hogs.

Domestic Demand.

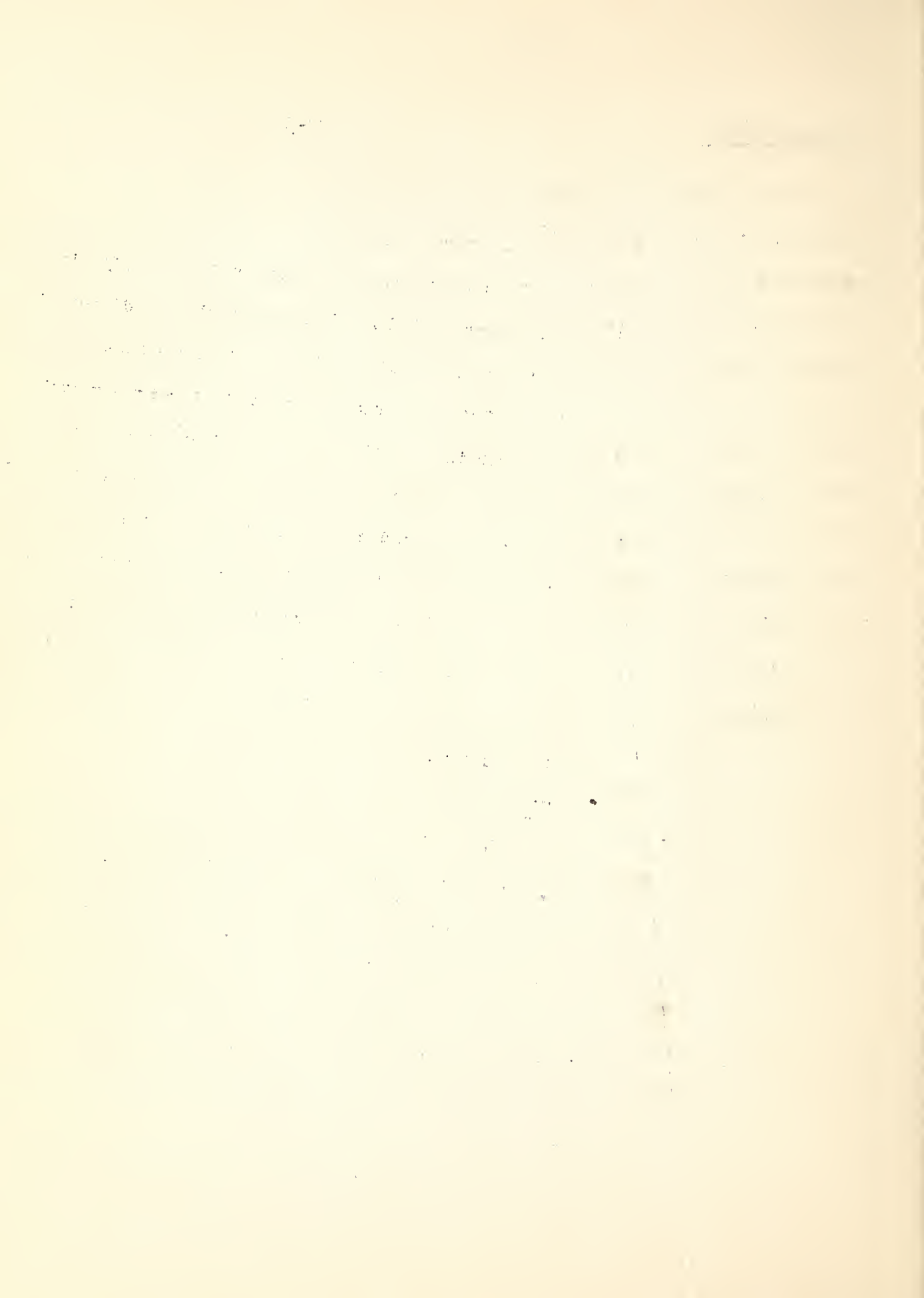
From present indications the consuming demand for pork products in 1927, while above average, is likely to be slightly below that of 1926. Demand in 1926 was at the same high level as characterized 1925, with the exception of that for lard, which was adversely affected by the low prices of cottonseed oil during 1926, especially during the latter part. In view of the prospective decrease in beef supplies and other conditions a reduction in demand for pork products sufficient to materially affect hog prices during 1927 is not anticipated.

Foreign Demand.

Foreign demand for pork products during 1927 will probably be no stronger than during 1926. While industrial conditions in Great Britain show improvement, it is not likely that an increased demand for our hog products will follow. While hog slaughterings in foreign countries were apparently slightly larger in 1926 than in 1925, mid-year reports from four important countries show a 10 per cent increase in sows on farms, indicating that a general increase in numbers is under way. Notwithstanding improving industrial conditions in those European countries which are the chief buyers of American pork products, the increasing hog production in Europe and the continuation of hog prices at present levels in the United States indicate that our pork exports during 1927 are not likely to be any greater than during 1926, if as large.

Price Situation.

On the basis of supplies and probable demand as indicated above hog prices through the next six months will probably be maintained at about the same level as a year ago with about the same seasonal movement; prices during the summer and early fall are likely to continue high, but not quite up to the average of the last six months of 1926; during the winter of 1927-28 prices will probably be on a slightly lower level than during the present winter. In making plans for the fall pig crop of 1927 and the spring crop of 1928 farmers should bear in mind that the present level of prices cannot be maintained if material increases are made in production and marketings.



THE DAIRY PRODUCTS OUTLOOK

Further slight decreases in dairy cows occurred in 1926, and numbers of heifers are insufficient for normal replacements. Production during 1927 may exceed the low 1926 production, which was partly due to exceptionally poor pasturage. Dairymen are likely to have a moderately favorable spread between the price of feed and the price of dairy products for a year or two should urban industries continue at approximately their present activity. Domestic demand promises to continue moderately favorable, and foreign demand to show improvement. Foreign production, however, is increasing. On the whole, the dairy situation is on a stronger basis than a year ago. If the number of heifer calves saved is not materially increased, favorable conditions may continue.

Supply Situation

Number of animals: Present indications are that the number of dairy cows continued to decrease through 1926, with slightly fewer dairy cows on farms January 1, 1927, than a year earlier. There was no increase in the number of dairy heifers above the reduced numbers of a year before, at which date there were almost six dairy cows on farms for every yearling heifer being raised for milk purposes. Since the number of heifers is low in comparison with the number of dairy cows and is insufficient for normal replacements, numbers of dairy cows can be increased in 1927 and 1928 only by retaining in the herds older or less productive cows, including those not ordinarily kept for milking. The increase in dairy herds that is ordinarily expected when the price of feed is low in comparison with the price of

DAIRY 2

dairy production has not yet gained much headway, though increases in prices of milk cows which have occurred are likely to encourage the saving of larger numbers of dairy heifer calves this year. In the central states expansion of dairying has been partially checked by poor hay crops and poor pastures for two seasons in succession. In the Northeast the high industrial wages and the continued movement of population away from the farms are tending to restrict expansion. The Mountain and Pacific Coast States show some slight increases in production. In the South feed supplies are at present abundant and there is a tendency towards increasing dairy herds but the number of milk cows in the South is too small to materially affect the general situation.

Feed situation: Supplies of dairy feed are generally ample and in spite of somewhat smaller crops of feed grains and hay than last year, feed prices are generally lower. Supplies of high-protein feeds are also adequate with prices from 4% to 10% below those of a year ago, while prices of wheat by-products are slightly above a year ago, though supplies are no smaller. Averaging all important grain and concentrate feeds together, farm prices for the last three months of 1926 averaged 4% lower than for the same period of 1925. Apparently feed prices for this winter will be as low or lower than last winter. With the exception of cottonseed, yields of feed crops in 1926 were not above average, and numbers of livestock as a whole are still decreasing. Unless farmers make an unusual reduction in acreage next year, feed supplies for the 1927-28 season will be ample even should yields be

somewhat lower.

Lower feed prices during recent months, coupled with recent higher prices for butter, will undoubtedly tend to encourage more intensive feeding this winter, which would ordinarily result in heavier production of milk per cow than usual during the remainder of the winter season. Even though these favorable conditions for increased production have prevailed during December and January, production and receipts of manufactured dairy products so far have run lower than a year ago.

Pasture conditions: Reduced production of dairy products in 1925 and 1926 was largely due to unfavorable pasture conditions. Last year, especially, was less favorable than any year in the last decade. Average conditions during the summer of 1927 would readily increase milk production during that period by 5% to 10% above that of last year, while unusually favorable weather would result in even greater increase. While numbers of cows are not greater than a year ago, average pasture conditions in 1927 would probably result in an increase in production over 1926.

Demand Situation

Domestic demand: Indications are that business activity for 1927 may not quite equal the record levels of 1926. Present indications, however, are that the recession will probably not be sufficient to appreciably affect the per capita demand for dairy products or prevent a continuation of the upward trend in per capita demand for fluid milk.

The foreign market conditions: World dairy production was apparently heavier in 1926 than in 1925, and may be considerably heavier in 1927. So far there has been a tendency for the increase to

DAIRY 4

be consumed in the exporting countries where low prices have stimulated consumption. This has been especially notable in Russia.

In Great Britain, where consuming power was lessened by prolonged labor disturbances during fully half of the year just closed, the conditions affecting demand for dairy products during the coming year may confidently be expected to make marked improvement. Germany's foreign demand for dairy products, on the other hand, clearly shows some weakening due to increasing domestic supplies. The two chief butter importing nations, England and Germany, imported no more butter in 1926 than in 1925, although butter prices were 10% to 15% lower.

With normally increased world supplies and subnormal European demand, price depression prevailed in foreign markets throughout the last half of the year just closed. While any further recovery which may occur in world butter prices would be favorable to further increased world production, it would tend to reduce foreign competition on domestic markets to even less than that in 1926. Total U.S. imports of butter during 1926 were 8,029,000 pounds compared with 7,212,000 pounds in 1925, notwithstanding an increase in the domestic tariff from 8¢ to 12¢ per pound which occurred in April 1926.

Fluid Milk

Fluid Milk: In eastern fluid milk areas 1926 prices averaged somewhat higher than those of 1925, while in other sections prices were slightly lower. The outlook for fluid milk must take into consideration certain factors, more or less local in character, which

do not apply equally insofar as manufactured dairy products are concerned. Some relation between prices of fluid milk and prices of other dairy products is inevitable, but the extension of areas supplying local markets, local sanitary control measures, local marketing methods, and improvement in transportation facilities and methods, are all influences which affect the outlook for producers supplying different local markets. In sections where the principal outlet for milk is manufactured products, milk prices will follow more closely the trend of butter and cheese prices than in those areas where the bulk of the supply enters fluid milk trade. Increasing long distance shipments of sweet cream are already having an effect on eastern milk areas.

Butter

Considering the usual seasonal trend, 1926 was notable for the steady course which butter prices followed. In January and again in December price declines occurred due to the immediate influence of foreign butter, but these two periods were the only times during the year when any unusual tendency developed. The December condition carried over into 1927 and this year started off with butter prices 4 to 5 cents higher than a year ago. Since the first of the year prices have shown declines much in line with the usual January tendency. Storage stocks of butter on January 1 were not only a third less than they were on January 1, 1926, but were also approximately a fourth less than the January 1 five-year average. This together with the fact that production is apparently continuing

to run lighter and strength to the present butter markets. The lighter storage stocks and continued low production would tend to sustain butter prices through the remainder of the winter. Given normally favorable weather conditions next summer, larger production would result than in 1926 when conditions were unfavorable.

Cheese

Cheese prices in 1926 averaged slightly below 1925, but as was the case with butter prices were approximately on the same level as the average of the past five years.

Production of American type cheese also is apparently starting off at a slower rate than in 1926. Stocks in cold storage are slightly lower than a year ago, although they are about a fourth heavier than the January 1 five year average. This increase over the five-year average loses some of its significance when the increasing quantities now being carried in storage for the manufacture of process cheese are noted.

Condensed and Evaporated Milk

Condensed and evaporated milk markets were firm throughout 1926 with domestic trade constituting the principal outlet. Foreign trade continued to decrease. Total production for the year 1926 approximated that of 1925 but on January 1, 1927, stocks in manufacturers' hands showed a heavy decrease under those of January 1, 1926.



SHEEP AND WOOL OUTLOOK

Sheep in this country have been on the upturn of the production cycle since 1922 and present indications are for a continued moderate increase in numbers. Sheep and lamb prices have been on the downward trend since 1925. Lamb supplies for 1927 may be slightly larger than for 1926. Consumptive demand for lamb is expected to continue strong through 1927 but feeder demand may be less active than in 1926. The wool market appears firm with no marked changes in sight.

LAMBS

Supply Situation.

Sheep numbers in the United States continued to increase during 1926. This increase was largely in breeding stock, represented by ewe lambs kept for breeding.

Sheep and lamb slaughter has been gradually increasing since 1922. The number slaughtered under Federal inspection in 1926, amounting to nearly 13 million head, was 8 per cent greater than in 1925 and was the largest since 1921.

Sheep are reported in good condition in most of the western producing areas and with favorable weather conditions the lamb crop of 1927 may exceed slightly that of 1926. Marketings next fall will probably be somewhat larger in relation to the size of the crop than in 1926, as a continuation of the keen demand for ewe lambs of suitable breeding type in evidence in the fall of 1925 and 1926 is hardly to be expected next fall.

The estimated number of lambs on feed January 1, 1927 was 8 per cent less than a year earlier. The increased numbers in the Corn Belt indicated

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larger market supplies during January and February than last year, but the decreases in Colorado and Western Nebraska indicated smaller supplies of fed lambs from March to May. The decrease in the spring may be partly compensated for by a larger and earlier movement of California spring lambs than last year, if weather and feed conditions continue favorable. A heavy movement of grass fat sheep and yearlings from Texas is also possible in May.

Demand Situation.

Consumptive demand for lamb continued strong through 1926, dressed lamb prices decreasing no more than would be usual with the increased supplies. The demand for lamb will probably continue at a high level through 1927. The possible slight decline in business activity is not likely to be enough to offset the usual $1\frac{1}{2}$ per cent annual increase in demand due to population growth. Feeder demand, however, was lower than during 1925, which was partly responsible for the lower live lamb prices during the last half of 1926.

In 1925 many feeders especially in the West lost heavily on their operations and as a result the demand for feeder lambs in 1926 showed a material decrease. Furthermore the lamb market this far this winter has not been generally satisfactory for either the corn belt or western feeder. These conditions are likely to be reflected in a decreased demand for feeder lambs next fall. However, should western feeders realize satisfactory returns for their fed lambs this spring there is a possibility of a stronger demand from western feeders than in 1926.

Price Situation.

With the indicated heavy supplies, lamb prices in the immediate future will probably continue about at present levels, with a subsequent recovery in

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the spring. The extent of the advance will depend upon how far the short supplies of fed lambs are offset by heavier supplies from California and Texas.

With an average lambing percentage and fewer ewe lambs held, market supplies during the second half of 1927 may be somewhat larger than in 1926. Consumer demand will probably continue strong but feeder demand is not likely to be as good as in 1926.

WOOL

The 1926 world's wool clip was slightly larger than for the year previous and the largest for any of the post-war years. London prices of wool are below those of a year ago, but the market is now firm and demand is good. Strengthening factors for 1927 are the low stocks in the Southern Hemisphere at the beginning of the 1926-27 shearing season, prospects for improvement in industrial conditions in the United Kingdom, a good demand from Germany and greater confidence due to the apparent stability of prices.

World Supply Situation.

Estimates of sheep population for 13 important countries reporting in the first part of 1926 show an increase of 3 per cent over 1925. This increase brings the number of sheep in those countries almost back to the pre-war level. Statistics in certain countries for which figures or other indications are available point to a continued increase in 1927.

World wool production in 1926 was 3,024 million pounds, as estimated by the Department, compared with 2,998 million pounds in 1925, and an average of 3,047 million for 1909-13. Australian carryover at the beginning of the season was only about 10 million pounds as compared with 165 million pounds

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Foreign Demand and Price.

Foreign mill consumption of wool during the last season was apparently greater than for several years, the largest production since the war being absorbed and stocks in producing countries being materially reduced during the year. Wool prices in London declined during the year, with prices in December, 1926 approximately 5 per cent lower for medium wools and 8 to 15 per cent lower for fine wools compared to a year earlier, but prices in January were about 5 per cent above the December closing sales. Furthermore January prices in the primary exporting countries are higher than a year ago. Prices at Wellington, New Zealand at the January sales were above the previous sales in November.

Domestic Demand Situation.

Wool consumption during 1926, excluding carpet wool was slightly above 1925 consumption. Apparently the greater stability in raw wool prices during the latter part of 1926 led to some return of confidence among manufacturers. Unless there is a recession in general business activity there is no reason to expect a decrease in the domestic demand.

Domestic Price Situation.

Domestic prices on all grades of wool declined materially during the first half of 1926, but advanced slightly during the second half. Grease wool



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prices for the first week of 1927 were from 6 to 10 cents lower than a year earlier.

In view of the foreign situation and the unusually light stocks in mills in this country, together with the fact that present available supplies of domestic wool are about the same as at the beginning of 1926, the wool market will probably continue at about present levels. Apparently wool prices are more stable than at any time since the war.



The Mohair Outlook

The mohair producers of the United States are facing a difficult situation for the marketing of their product. It is possible, however, that this situation may be relieved by some recovery in the foreign demand for mohair. While domestic demand for mohair has increased rapidly in the past, producers may well be careful not to expand production more rapidly than domestic demand requires.

The outstanding features of the present situation are:

- (1) The large quantity of mohair imported last year;
- (2) The large amount of this remaining in bond in customs warehouses;
- (3) The decrease in foreign consumption of mohair, offset in part by what appears to be a marked increase in mohair consumption in the United States.

The use of mohair in automobile cloth and in furniture upholstering in the United States in 1926 is estimated to be one-third larger than in 1925. Notwithstanding this marked increase in consumption, imports of foreign mohair have been so large that stocks of foreign mohair in bonded warehouses have greatly increased. Total imports for the year have amounted to nearly 11,000,000 pounds. The stocks in bonded customs warehouses January 1, 1926 amounted to about 3,400,000 pounds, and on November 30th, the last date for which we have figures, amounted to 9,900,000 pounds. Stocks in dealers' hands are also believed to be heavier than usual at this time in the season. It should be said in this connection that there is no evidence of increased stocks in foreign countries. Apparently increased demand in this country in the past year has attracted to this country the surplus supplies of foreign countries, while the demand in the current year has not been sufficient to consume

these supplies currently. The significance of the large imports can be realized when it is noted that this amount is probably equal to our total domestic production.

The production of mohair in the United States has been increasing rapidly in recent years and appears to be not far below the usual domestic requirements.

The estimated production increased from a pre-war average of about 4 million pounds to about 7 million pounds in 1921 and has continued increasing up to the present time. That production is approaching usual domestic requirements is indicated by the fact that for the period 1923-25 only 2,900,000 pounds were imported for consumption, which also indicates that the total consumption of the United States for this period was probably between 12 and 13 million pounds. So long as our production continues to be no greater than our domestic requirements, our producers will be in an advantageous position with reference to foreign producers on account of transportation costs from foreign countries, and the tariff. Owing to the tariff, the price of domestic mohair in Boston at the present time is nearly double the value per pound of the foreign mohair in bond.

The shipping of large quantities of foreign mohair to Boston last year seems to have been due to reduced foreign demand. The United Kingdom, the greatest foreign consumer, in the past year has imported only about 11 million pounds, of which $4\frac{1}{2}$ million were re-exported; whereas in the period 1921-25 she imported on the average 16 million pounds and a pre-war average of 30 million pounds. The decline in the British takings seems to be due largely to

a loss of Continental markets for mohair yarn and other manufactured products. The great reduction in the takings of last year as compared with previous years was probably due to some extent at least to the strike and the general depression of the British manufacturing industries. It is possible that with the recovery of economic conditions in the United Kingdom and in Germany there may be some increase in the demand for foreign mohair which will relieve this market somewhat from the products of South Africa and Turkey.

THE HORSE AND MULE OUTLOOK

Present numbers of work animals are apparently ample to meet farming needs the coming season, but the number of young stock is only large enough to maintain about half the number of work stock now on farms. Farmers can not expect to replace their work stock a few years from now at the low level of present day horse prices.

The situation in the Southern States is such that the demand for mules in 1927 will probably not be as great as it was in 1926. The decreased purchasing power of cotton farmers and the necessity for economical production will probably result in the decreased movement of mules into the cotton belt. The low returns from the sugar cane crop of 1926 indicates a similar situation with cane producers.

The demand for horses for farm and city work has fallen rapidly since 1918. The automobile, truck and tractor have replaced some of the work stock on a great many farms. On January 1, 1925 there were approximately 500,000 tractors on farms. Since then nearly 300,000 tractors have been manufactured in the United States, most of which are used by farmers. The general introduction of the combine harvester in the Wheat Belt has permanently reduced the need for horses there. With the improvements that are being made in motor power, it is difficult to foresee the extent to which horses will be supplanted on American farms.

The total number of horses and mules on farms have decreased about 17% since 1920, while the ratio of all colts per 1000 horses and mules has decreased from 132 in 1920 to 73 in 1925 and at the present time is probably about 65. Without colts and horses to replace our present number of work animals the number will fall off rapidly, probably 30 or 40% within the next five or six years.

Horses and Mules.

This rapid reduction will first develop into an acute shortage in those states where the horses now on farms are the oldest and where there are fewer colts coming on as replacements, and where the topography of the country or character of labor available, or the type of farming being followed make the use of tractors less satisfactory than in other parts of the country. The Northeastern and Southeastern States have a larger proportion of their work animals over ten years of age than elsewhere. Neither of these sections is as well adapted to tractor farming as are the broad plains of the Central States. Farmers in the Corn Belt, where surplus horses have previously been raised should consider the possibility of increasing the production of types of horses and mules suitable to meet the probable demand from the Eastern States. Only in the Far Western States are the present number of colts anywhere nearly sufficient for replacement purposes.

The cycle of horse prices is longer than for any other class of livestock. Prices of horses in terms of 1910 to 1914 dollars have been lower during the past five years than for any time on record. Horse prices previously reached low points in 1868, 1880 and 1897. The present low phase in the price cycle has undoubtedly been lengthened by the displacement of work animals by automobiles, tractors and trucks. Eventually the number of work animals will undoubtedly be reduced to a point where scarcity will cause prices to rise rapidly.



RECENT POULTRY OUTLOOK

The year 1927 promises no material changes for egg producers in most sections of the country. Present indications point to a moderate increase in egg production but it is expected that there will be little change from last year's price levels. There is apparently no reason to anticipate any particular decrease in the production and marketings of poultry during the coming year so that the present heavy storage holdings of dressed poultry are likely to have a depressing effect on the poultry market unless demand increases.

EGGS.

The trend of egg production in the United States has been decidedly upward since the war, increasing about 19 per cent from 1919 to 1924 while the human population increased but 6 per cent. Those regions showing the greatest increase in specialized egg farming for the period, also showed the greatest percentage gain in egg production. The Pacific Coast, New England and Middle Atlantic States are credited with largest percentage gain for the five-year period, with increases of 60, 51 and 43 per cent respectively. Increases of 33, 14 and 10 per cent were noted in the Mountain, West North Central and East North Central States. Eighty per cent of the increase in these six geographic divisions was about equally divided between the West North Central, Middle Atlantic and Pacific Coast States. Incomplete census reports from the Southern States indicate that the increase there, on the average, was less than for the other regions of the country.



EGG & POULTRY 2.

The estimated egg production during 1926 was probably at least five per cent greater than during the previous year. The receipts at the five principal markets, however, were almost the same for the two years, probably due to an increasing tendency to market eggs direct to smaller markets. Egg prices at New York during 1926 were the lowest since the war and averaged two to three cents less than for the previous year, due mainly to lower fall and winter prices for eggs.

During November and December, when the effect of the 1926 crop of pullets began to be felt, receipts of eggs at the principal markets ran ahead of the same months in 1925, and, so far in January, have slightly exceeded the rather heavy receipts of January 1926. Present indications are that egg production in 1927 will be fully equal to last year, and probably greater, depending upon weather conditions and upon the continuance of the present trend toward the increase in numbers of new, specialized poultry enterprises and in the increase in size of those already established.

The year 1927 opened with stocks of cold storage eggs amounting to 1,111,000 cases. This is over 550,000 cases less than on January 1, 1926, and over 250,000 cases less than the five-year average. Stocks of frozen eggs on the same date were about the same as in 1926 but considerably above the five-year average.

The outlook appears good for those poultrymen in the Eastern States who are able to maintain or acquire special trade outlets for their products or who have special local marketing advantages. The

EGG & POULTRY 3.

increasing supply of eggs coming on to the eastern markets from this and other regions of the country is forcing winter egg prices to lower levels. A note of warning seems timely for those specialized poultrymen of this and other regions whose earnings have depended more upon high egg prices than upon economical methods of production and efficient marketing.

On the Pacific Coast, the outlook for egg producers, at least for 1927, appears good. The specialized egg producers of that region are meeting the handicap of distance from eastern markets by efficient marketing organizations, standardization of product and a high average egg production, particularly during the winter months. If the present trend of egg production continues and all indications are that it will, shipments of Pacific Coast eggs to eastern markets will be at least 10 per cent greater in 1927 than in 1926 but a larger proportion of the product than usual will be marketed in cities other than New York.

In the North Central States, where about 52 per cent of the nation's egg crop is produced, mostly by farm flocks, production continues to increase gradually. In some sections organizations and individuals are giving increasing attention to the improvement of quality of product and more efficient marketing methods. Weather conditions and the food supply will be important factors in determining the production.

In those regions of the country where there is an apparent attitude on the part of many people to expand the poultry industry to

meat emergencies due to recent low prices for certain staple farm products, those contemplating specialized egg production should seriously consider the question of available market outlets for their products.

Poultry.

Poultry production appears to have been heavier in 1926, which is reflected in an eleven per cent increase in the receipts of dressed poultry at the five principal markets. Dressed poultry prices were relatively high, averaging about two to three cents per pound higher at New York than in 1925, but prices since the first of the year have averaged lower than in the corresponding period of 1926.

Stocks of frozen poultry on January 1 were the largest on record amounting to 144 million pounds compared to the previous peak of 138 million pounds on February 1, 1925. This total is over 31 million pounds greater than last year and over 35 million pounds greater than the five-year average. All classes of poultry share in this increase.

The present supply of poultry feeds for the larger part of 1927 appears sufficient to maintain prices at or near the 1926 level.

Indications are that business activity for 1927 may not be quite equal to the record levels of 1926, but any recession that might occur will not likely be either sufficiently severe or of long enough duration to seriously affect the per capita demand for eggs and poultry. The annual growth in population normally increases the demand to some extent.



OUTLOOK Feed Grain and Livestock /

The prices of livestock and livestock products at the present time are at the most satisfactory level since pre-war days. Even at this level some of the products are below the general level of prices of industrial commodities as measured by the index number of non-agricultural wholesale prices. Any material increase in numbers will reduce livestock prices and tend to decrease the total income from livestock production.

Feed production during the last two years has been so great relative to the livestock to be fed that the prices of feed crops have been only slightly above pre-war levels, and much below the prices of livestock. Too great an acreage in feed crops, was responsible for this large production and not high yields. About 99.5 million acres of corn and 44.4 million acres of oats were harvested in 1926. With average yields in 1927 a reduction of 5 million acres in corn and 2.5 million acres in oats would be necessary to reduce production to the quantities needed to meet present requirements for feed and other purposes as indicated by the disappearance of the 1925 crops.

If the livestock production is increased to balance feed production in the Corn Belt States, decreases in livestock prices and net incomes to livestock farmers are inevitable. With some probable shifts from cotton to feed crops in the South, farmers in the principal producing States must make substantial reductions in the acreage of corn and oats if livestock production is to be held no larger than at present. To offset the probable increase in acreage of corn and other feed crops in the South as

Feed Grain and Livestock - 2

well as to balance the feed production of the nation with livestock requirements a reduction of 15 per cent in acreage of both corn and oats in the principal producing States is necessary.

The acreage taken from the feed crops may well be seeded down temporarily for pasture or soil improvement purposes. An abundance of pasture is an important factor in lowering production costs of livestock. Even where additional pastures may not yield large returns it may be advisable to increase pasture seeding. The net returns from farms following such practises may be increased because of the saving of labor and smaller operating expenses.

THE HAY AND PASTURE OUTLOOK.

There is no prospect for a nation-wide increase in hay requirements in 1927

due to the fact that the number of hay consuming animals in the United States continues to show a downward trend. Average yields on an acreage equal to that of last year would produce a crop approximately 5,000,000 tons larger than the crop of 1926. Such a crop would be ample for prospective requirements even though the carryover of old hay will probably be smaller than a year ago. Hay prices are only slightly higher at the present time than two years ago, when the supply was the largest on record, notwithstanding the fact that the domestic supply, including farm stocks, for the past two seasons averaged about 10 per cent less than for the three preceding seasons. If an average yield, therefore, /on an acreage equal to that of last year, is secured throughout the country/ in 1927 farmers in general are likely to receive lower prices for the hay which they have to sell the coming season.

Weather conditions in 1926 caused regional surpluses and shortages of hay that will have a marked influence on local prices until the new crop is available. Drought in Minnesota, Iowa, North Dakota, South Dakota, Nebraska, and Kansas, reduced the yields of all kinds of hay materially and necessitated the purchase of hay from other regions for stockyard, farm and city consumption. Clover production was greatly reduced in the important clover area east of the Mississippi where the



Hay - 2.

hot, dry summer of 1925 was extremely hard on spring sowings and where subsequent winter killing occurred. As a result clover hay commands unusually high^{market} prices in the Northern States east of the Mississippi where there is an urgent demand for dairy hay and where freight rates restrict the purchase of western alfalfa. In the northeastern part of the United States hay prices are ruling higher than a year ago because of slightly reduced production and because smaller supplies are available for import from Canada.

In the Southern States favorable weather and some increase in acreage resulted in the production of a crop of all kinds of hay considerably greater than the short crop of 1925. Furthermore liberal supplies of relatively cheap cottonseed meal and hulls from the record cotton crop of 1926, together with a good harvest of southern grown feed grains, are available this season for feeding purposes. Largely as a result of these conditions the Southern States are not purchasing either timothy from the North or alfalfa from the West and Southwest in such large amounts as last season. In fact, small surpluses of hay are available for shipment at some points in the South. In the Mountain and Pacific Coast States almost as much hay was produced as in 1925 and the crop is generally adequate for current requirements.

The present trend in the market demand for hay is toward increased requirements of legume hay for dairy feeding and decreased requirements of timothy and other grass hays for horse feeding. There is a strong and constant dairy demand for the best grades of alfalfa and clover hay in the Eastern and Southeastern States. Farmers who are producing hay as a cash

Hay - 3.

crop and for shipment into these districts may profitably replace timothy acreage with alfalfa or clover acreage wherever soil and climatic conditions are favorable. While relatively high freight rates continue to restrict a heavy movement of hay for long distances this obstacle may be met in part by producing and shipping uniformly loaded cars of the best grades of hay which will command prices sufficiently high to offset the high transportation costs.

So far as market hay is concerned a general increase in acreage is not justified. Demand for baled hay is not likely to increase during the coming season unless/ ^{an unexpected} shortage of hay production over an extensive region should necessitate increased inter-regional shipments to meet urgent requirements for work stock, breeding stock and dairy cattle. An additional acreage of alfalfa in the West for a cash crop would not yield profitable returns as the present acreage is more than sufficient for prospective market demands. Similarly in the timothy areas of the Middle Western and Eastern States an increase of acreage is inadvisable as the timothy acreage is now sufficient to meet the market demands.

Farmers throughout the country, however, should give consideration to the fact that productive hay and pasture acreage is of material importance in keeping livestock production costs at a minimum and in maintaining soil fertility. Old meadows of alfalfa or timothy and clover that are weedy and grassy are relatively unproductive of good hay for either farm feeding or market purposes and should be replaced with newly seeded acreage. In regions where the carryover of hay will be small this

Hay - 4.

spring some increase in acreage is advisable to replenish farm reserves. The chronic shortage of ^{high quality} alfalfa, clover, or other legume hays for dairy feeding in the East and Southeast suggests an increase of their acreage in substitution for non-legume hay acreage.

In areas where it is desirable to reduce the acreage of feed grains such acreage may well be seeded down for pasture or soil improvement purposes. Additional pasturage would lower the costs of livestock production and utilize land that might otherwise be idle. Crops sown for soil improvement purposes, even if livestock are not available to pasture the land, would yield future income through increased soil fertility. The relatively low prices for alfalfa, sweet clover, ^{lespedeza} and soybean seed suggest the seeding of alfalfa/^{lespedeza} or soybeans for hay, sweet clover for pasture, and sweet clover or soybeans for plowing under in many localities.

The Feed Outlook.

Supplies of feed grains, hay, and by-product feeds are generally adequate for feeding requirements this season and prices on the whole are about the same as a year ago or slightly lower. Only about the usual seasonal advance seems probable for feed grains. Feedstuffs prices are now materially higher than they were earlier in the season but further sustained advances seem unlikely, assuming an average winter and spring season, since the supply of these feeds is likely to be about the same as a year ago or slightly larger, while the number of animals to be fed is smaller.

The combined tonnage of feed grains available for the 1926-27 season, including corn, oats, barley and grain sorghums, is about 5 per cent smaller than a year ago while hay supplies show a reduction of 6 per cent, but this decrease is partially offset by further reductions in the number of animals on farms. Increased crops of feed grains and forage in the South have materially reduced the demand for feed from that region but reduced harvests in the western Corn Belt States and some far western States are causing some movement of grain and hay into those sections.

Prices of wheat feeds are now higher than a year ago, heavy milling and lower prices early in the season having been counterbalanced by increased takings. Offerings of late have hardly been equal to buyers' requirements. Supplies in storage are apparently a little smaller than a year ago, but the same amount of feed, or a little more, is likely to be milled during the rest of the season. Offerings of Canadian feed continue of good volume, and about the same amount as last year may be expected

from this source. Prospects, therefore, are that supplies of those feeds for the rest of the season will be adequate, and no further material advances in price are likely.

With a crop of cottonseed about 15 per cent larger than last year, and an unusually large proportion still to be crushed, prices on cottonseed meal for the rest of the season will probably average lower than for the corresponding period last year. Liberal supplies early in the season forced prices to the lowest level since the War. Heavy consumption, however, resulted in rapid absorption of the larger supplies, and prices recovered materially from the low point. Exports for five months, one-third larger than a year ago, have reduced the domestic supply to about 12 per cent larger than a year ago. It appears that ample supplies of cottonseed meal will be available for the rest of the season, as only about 400,000 tons more of cottonseed had been accounted for through crushers to January 1 than a year ago, from a crop over 1,000,000 tons larger. Linseed meal supplies will probably be large enough to prevent material price advances. Although the domestic crop of flaxseed was smaller than the 1925 harvest, the demand for linseed oil and the liberal supplies of flaxseed available in Argentina indicate that plenty of this feed can be had till the 1927 crop moves to crushers, providing that its price in the United States is sufficiently high to offset the drawback of about \$5.00 per ton allowed on the export of linseed meal crushed from imported seed.

Heavy production of starch, syrup and such corn products has resulted in a large supply of gluten feed and meal which has helped to reduce prices of this feed well below the level of a year ago. Supplies

of hominy feed also seem adequate at prices practically the same as during last spring.

Offerings of alfalfa meal have been more than equal to the limited demand which has developed for this feed at prices around 10 per cent lower than at this time a year ago.

Tankage prices are being well maintained at a level \$10 a ton higher than a year ago for 60 per cent digester tankage, and trade reports indicate that the smaller output has been well absorbed.

Demand for feeds this winter is generally lower than a year ago. Feed crops throughout the South and Southwest were generally excellent in 1926, and hence much less purchased feed was needed; while the lower income from cotton has still further reduced demand from that section.

THE POTATO OUTLOOK

There is a serious probability that an excessive acreage of potatoes will be planted in 1927. Reports received from farmers show that a tendency to increase the acreage exists in all parts of the country, the acreage expected on the farms reported to date showing a net increase of 13 per cent. With average growing conditions, such an increase in acreage would result in much lower prices to growers.

In considering the potato situation one must bear in mind the fluctuations in acreage and yield during the last few seasons. The high price of potatoes in 1921, when other crops were bringing low returns, led to the planting of an excessive acreage in 1922, and to the production of a bumper crop. The following season the acreage was sharply cut but a good yield was secured and prices continued low. In 1924 the acreage was again greatly reduced, but the yield of nearly 127 bushels per acre was by far the highest ever harvested and the resulting low prices caused great losses to the growers. Again the acreage was reduced, the 3,092,000 acres planted in 1925 being the smallest potato acreage in more than twenty years. As the yield was rather light, a very high price was secured and the small crop was worth much more than the very large crop of the preceding year. In 1926 there was only a small increase in acreage, a larger increase being prevented by the high cost of seed and by the fear of a repetition of overproduction and low prices.

The acreage has now been abnormally low and the price correspondingly high for two seasons in succession. The price being received by farmers on December 1, 1926 averaged \$1.42 per bushel and the year

previous \$1.87, whereas previously potato prices have rarely been high for two years in succession. Under the circumstances a general increase in planting seems inevitable, the size of the increase depending largely on the price at planting time and on the extent to which individual farmers readjust their plans in consideration of what other farmers are planting.

Average yields per acre and average quality have been increasing during recent years because of seed improvement and changes in methods of cultivation, and market demands can now be supplied with fewer acres than were formerly needed. If the acreage this season is increased to about three and a third million acres it would be about 6 per cent above that grown last year and about equal to that grown in 1924. Assuming a yield of 112 bushels per acre, which is about what can now be expected with average weather conditions, this acreage would result in a crop about 370,000,000 bushels as compared with the 356,000,000 bushels produced in 1926 and the 422,000,000 bushels produced in 1924, when many millions of bushels went to waste or were utilized only for feeding livestock and other low-value purposes. If the acreage this season is increased by 13 per cent in accordance with the present plans of the growers reporting, there would be about an even chance that production would exceed 400,000,000 bushels, depending, of course, on weather conditions. Allowing for present per capita consumption, freight rates, handling and retailing costs, this production would result in greatly reduced prices to farmers. Production could not greatly exceed this figure without reducing the price in some localities to about what the potatoes are worth as food for livestock,



POTATOES - 3

In the spring of 1926, growers of early potatoes in most southern states took advantage of the very light holdings of potatoes in the northern states and planted a large acreage of early potatoes. This year holdings of old potatoes, while rather low, are heavier than they were a year ago and there is consequently less assurance of good prices. While an acreage of commercial early potatoes slightly larger than the average acreage during recent years is perhaps justified in States south of Virginia, the chances are that an acreage as large as that of last year would result in prices somewhat lower.



THE SWEET POTATO OUTLOOK

An increased acreage of sweet potatoes this season should be planted only by those growers who need the increased supply for their own use, who can dispose of the crop on their local markets, or who can afford to produce a crop for sale at relatively low prices. Growers should not forget the rather low returns secured from sweet potatoes in 1915, 1921 and other seasons when the acreage was increased because of low returns from the previous cotton crop.

Returns from sweet potatoes were not very satisfactory in 1926, but prices during the preceding two years were unusually good, and in view of the outlook for cotton, there is a great probability that, unless prevented by unfavorable weather at planting time, growers in many parts of the Cotton Belt will raise more sweet potatoes this year than can be utilized locally. The surplus available for shipment is likely to find the market demand even less than it was this season.

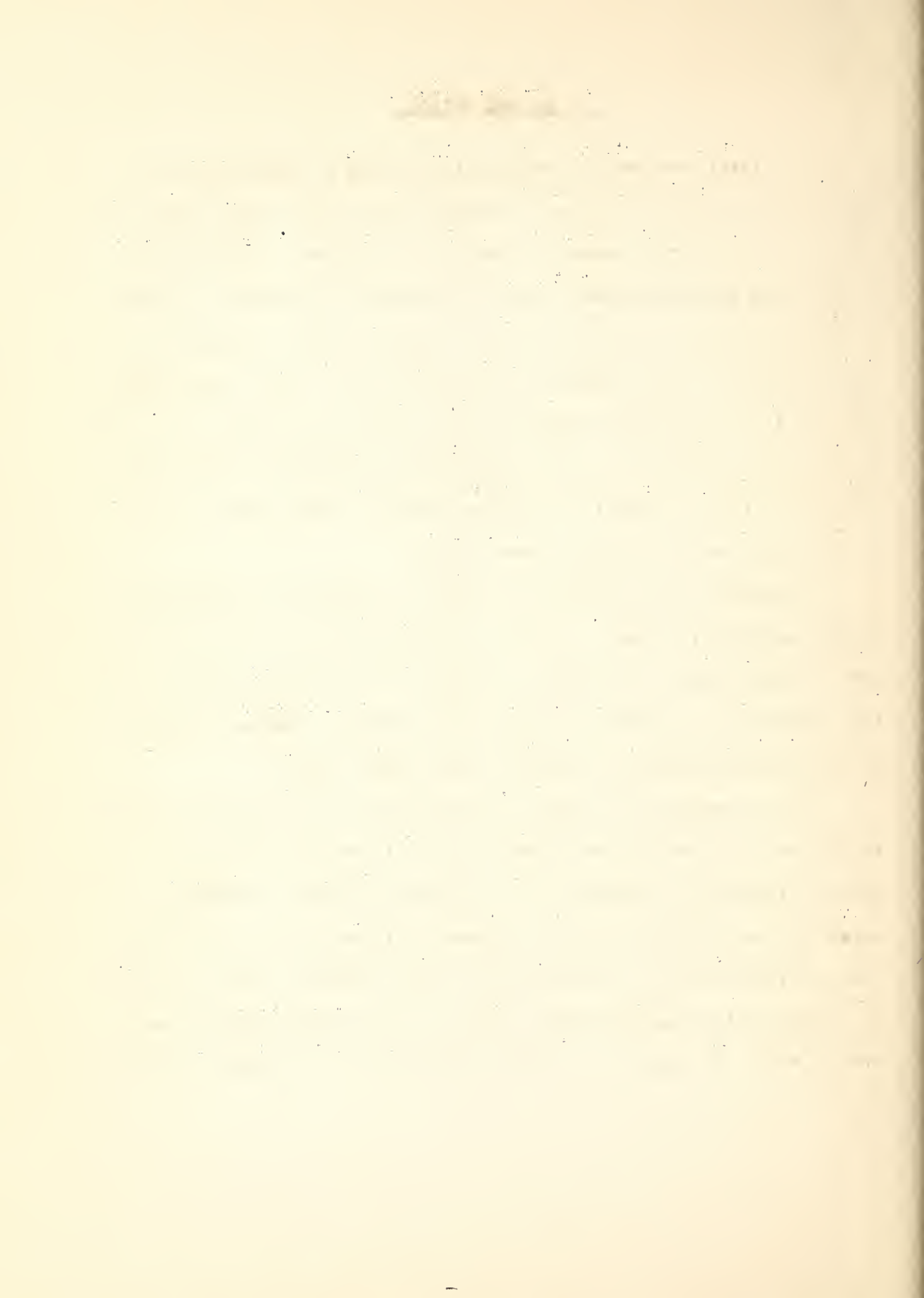
In the important commercial sweet potato area extending along the Atlantic Coast from Virginia to New Jersey the outlook depends largely on the acreage of the dry-fleshed type of sweet potatoes grown there for shipment to northern markets. This region has less than 10 per cent of the United States acreage, but usually produces more than half of the sweet potatoes shipped by rail. In this section a largely increased acreage in 1926 was accompanied by a large yield per acre, and low prices have been received. As keener competition both from Irish potatoes and from the moist-fleshed sweet potatoes grown in other states is to be expected next fall, there seems nothing to indicate that it will be profitable for growers in this section to plant more than their usual acreage. This will mean a reduction of about 10 per cent from the acreage planted in 1926.

CABBAGE OUTLOOK.

The total production of cabbage in 1926 was a little less than a million tons and slightly above the average for the five year period 1922 to 1926. This quantity seems to approximately represent present market requirements and during recent years any production materially in excess of it has resulted in prices so low that planting has been reduced the following season. The total annual production for the five year period for 1922 to 1926 has varied between 800,000 tons and 1,089,000 tons, with 982,000 tons last season. It appears that any increase over the 1926 acreage is likely to result in production above the five year average of 976,000 tons, with accompanying lower prices.

Production in the late cabbage states appears to be particularly closely adjusted to demand. Thus an increase of only 3% in production over 1925 resulted in appreciably lower returns to growers. It is apparent that a decrease in production is likely to result in increased returns per ton and that any appreciable increase means lower prices.

In the early shipping states, where slightly over one-fourth of the tonnage has been produced the past two years, there is a tendency to sharper fluctuations in acreage with a doubtful benefit to growers. Relatively high prices received by growers in these states the previous year, or relatively high prices received for the cabbage grown in northern states in the fall frequently have led to too great confidence and overplanting. This season, with large supplies of late cabbage reported



in commercial storage and in growers' hands and with an indicated increase in the acreage of about 20% for early cabbage in Florida and Texas, the southern grower does not appear to be in as favorable a market position as in 1926.

Yearly adjustments of the early acreage to offset heavy or light production and quantities entering storage in the late States are desirable. Growers in the early and mid-season sections should obtain information from competing sections before deciding the acreage to plant.



THE ONION OUTLOOK

A sharp cut in the acreage of main crop onions is needed to avoid over production such as probably would have occurred last season but for rather light yield and extensive crop damage which hardly will be repeated in 1927. Total onion planting exceeded the ten year average by 20 per cent. Acreage of the main crop States was 20 per cent greater than for either of the two years preceding and the trend in most leading states is upward. An average yield of good quality would have brought a record breaking production such as has almost invariably resulted in disastrous market conditions, as the demand for onions is closely limited and does not vary greatly from year to year.

With average crop conditions, the present outlook is rather favorable for Bermuda onions. The acreage is reported to have been cut fully 10 per cent but is still somewhat above average of recent seasons. The seasonal price always varies considerably, not only with the production but with the quality and condition of the crop, the earliness or lateness of the season, the control and distribution of shipments and the extent of foreign competition. Competition in the early part of the season will be mostly from storage stocks in the north. In the latter part of the shipping season early importations from Egypt will furnish the bulk of the competition. In this connection early reports suggest some reduction from last season's acreage of Egyptian onions.

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

THE BEAN OUTLOOK

A danger point to bean growers was reached in 1925 and 1926, plantings being large enough to produce with average yields several million bushels above the consumptive requirements of recent years. Unfavorable seasonal conditions so reduced the production of cleaned beans in both years, however, as to largely offset the excessive acreage. Another unfavorable growing and harvesting season can not be assumed and the need is clear for a sharp reduction in acreage, varying with the type of bean grown.

A repetition in 1927 of last year's planted acreage would with average yields produce about 20,000,000 bushels, or about 4,000,000 bushels in excess of present apparent needs for domestic consumption. The estimated 1926 total production of 17,100,000 bushels, which is 2,800,000 bushels less than the 1925 crop, contained between 15 and 20 per cent of damaged beans compared with 10 to 15 per cent in 1925, and less than 5 per cent in ordinary years.

The total production of pea and medium beans in Michigan and New York is about 20 per cent less than in 1925. Losses from weather damage were even greater in 1926 than in 1925 and on a hand-picked basis the present production is estimated at about 4,500,000 bushels compared with 5,500,000 bushels in 1925. A considerable carryover of 1925 beans in Michigan was marketed during the fall of 1926. The big 1925 crop forced pea-bean prices to low levels and with no reduction in the 1926 acreage they remained low. Severe field losses to the new crop led to a sharp increase in prices in October, but high moisture content and heavy pick has greatly reduced growers returns. Prices at

the beginning of 1927 were about the same as a year earlier. The steady increase in the canning of "pork and beans" has helped to furnish a market for the increasing production of this variety. The present supply of cleaned pea-beans is not in excess of the demand but an average yield on another acreage equivalent to that planted last year would result in a surplus supply which would be likely to prove demoralizing to the pea-bean industry.

Despite somewhat reduced production of red kidney beans owing to the unfavorable season, the price of the ordinary variety is slightly less than a year ago, while the price of the dark red variety has markedly declined. The acreage was apparently too great in 1926.

The production of Great Northerns, on a slightly reduced acreage, is about a tenth less than in 1925 and the crop is being absorbed at prices apparently about the same as last year. The price of Pintos is relatively high due to the decrease in production. However, the one-fourth increase in acreage in 1926 would except for the drought in Colorado have resulted in much greater production and correspondingly lower prices.

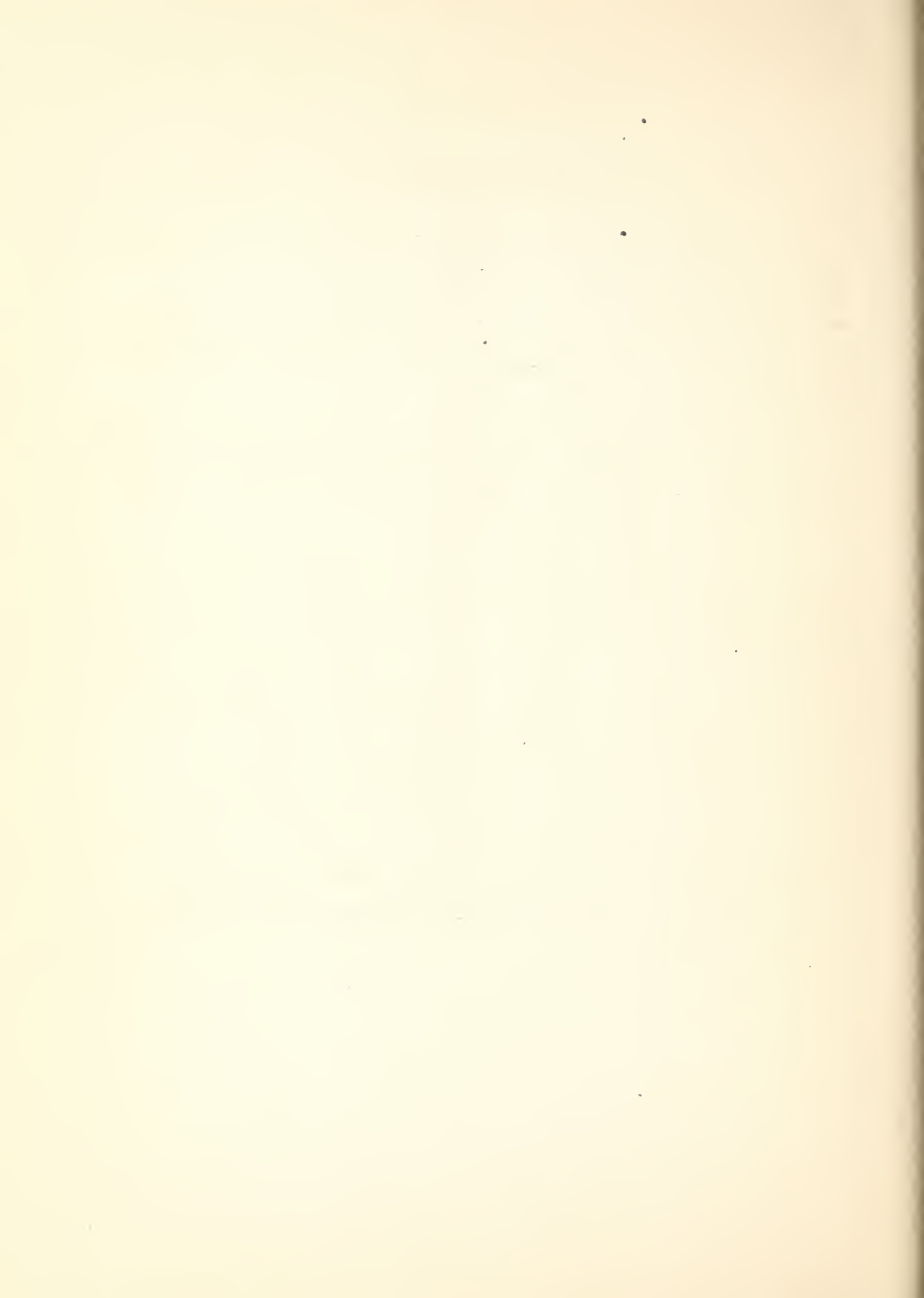
The largely increased acreage of limas with good yields in 1926, gave a supply far in excess of normal demand. Prices have declined rapidly and are now the lowest since 1923, suggesting the need for radical reduction in acreage this year. The present low prices of California black-eyes following two years of heavy production give no encouragement for heavy plantings this year.



THE FRUIT OUTLOOK

The present trend-of fruit production is upward and there is little on which to base hope for any marked improvement in prices over those secured during recent years. However, the uniformly favorable weather conditions which were largely responsible for the very heavy fruit crop of 1926 are not likely to occur very often.

In 1926, the total production of all fruits and melons combined was close to 15 million tons or a fourth greater than in 1925. Apples came closer to being a uniformly full crop than in any season during the forty five years for which comparable figures are available. Peach production per tree was also close to the 40-year record. The grape and pear crops exceeded all records, because of increasing acreages on the Pacific Coast and a heavy yield in eastern sections. Good crops of watermelons, cantaloupes, and strawberries and a fair supply of citrus fruits further complicated the marketing situation. The production of fruit per capita was probably the highest in a generation. There was an abundance of local supplies in all markets, leaving the principal producing sections with a reduced number of customers for their large crops.



THE CITRUS FRUITS OUTLOOK

There is in prospect a large increase in the production of both oranges and grapefruit. While no great increase in the lemon production is anticipated supplies of fresh fruit are already in excess of present market requirements.

Any increase which may occur in California orange production will probably be in the Valencia rather than the Navel crop. In Florida fully one-third of the trees are not yet in bearing and a considerable part of the bearing trees are not yet in full bearing. A large increase in the total production is almost inevitable.

A large increase in grapefruit production is also indicated. The number of bearing grapefruit trees in Florida increased 77 per cent from 1919 to 1924. Many of these have not reached full bearing and in addition the 1925 census showed almost one-fourth of the trees had not reached bearing age. While thus far Texas has not been an important factor in the production of grapefruit there has been a tremendous increase in plantings which are now coming into bearing and which will probably increase supplies rapidly from now on.

In the absence of freezes or other unfavorable conditions the prospects for marketing the rapidly growing volume of citrus fruits at more favorable prices are not bright and for the present the outlook is unfavorable for additional plantings.



THE APPLE OUTLOOK

Looking ahead, the apple industry as a whole is approaching a more stabilized condition although returns for the 1926 crop have been generally unsatisfactory due to abnormally high yields. However, commercial plantings would hardly be justified at present except under unusually favorable conditions. Substitutions of the more promising varieties for those which have been unprofitable would be advisable in many instances.

The 1925 census showed that during the previous 15 years there was a considerable decrease in the number of apple trees in the United States. The rate of decrease was somewhat less during the 5 years preceding the census than during the previous 10 year period. Most reductions have occurred in the scattered and less productive districts or in orchards located on unfavorable sites and such plantings as have been made have been ^{but a decrease in ordinary farm production.} mostly in commercial sections. This has resulted in a gradual increase in commercial production. Approximately one-fourth of the total number of trees in 1925 were under bearing age and this is probably not more than enough to maintain the present number in bearing. There are, however, many orchards which have not yet reached full bearing.

The average yield per tree has been increasing due to the tendency to eliminate unproductive orchards and to concentrate the industry in favored locations. There has also been a marked improvement in cultural conditions and a shift toward the more profitable commercial varieties. For these reasons annual commercial production during the next 5 or 10 years may show some further increases over the average of recent years. However, the increase in population ^{would} at present rates of consumption,



APPLES - 2.

probably offset any increase in production for this period. Increasing production of other fruits indicates keen competition on the markets.

In the western boxed apple states only about 13 per cent of the trees were under bearing age compared with more than 27 per cent in the barrel region. The decrease in total number of trees during the 5 years preceding the census was 14 per cent. in the box region and 7 per cent in the barrel region. Commercial production in western states is not likely to increase greatly during the next decade, but in the east and middle west there may be a moderate increase during this period.

Prospects for the unmarketed part of the 1926 crop are rather more favorable than they appeared earlier in the season. Cold storage stocks of apples on January 1, which were only 9 per cent greater than a year ago, were not as large as might have been expected since the 1926 commercial crop was 18 per cent greater than in 1925. Exports to Europe are expected to continue at a higher rate than in previous years.

Such factors as the short European crop in 1926, the damage by freezing to the Spanish Orange crop and the smaller Australian apple crop will tend to improve the European demand for American apples during the remainder of the season.

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THE PEACH OUTLOOK

The upward trend in the commercial peach crop may be expected to continue during the next few years as a large number of young trees have not yet come into full bearing. With the heavy crop of 1926/^{production} reached an amount which resulted in unsatisfactory returns to growers in many sections. Carload shipments have more than doubled since 1920 reaching a total of about 58,000 cars in 1926, which was 41 per cent greater than the heavy movement of 1925. These increases have occurred principally in the southern states, Illinois and California.

In the southern states and in the more important middlewestern states most of the trees are young. However in the western states where the average life of the trees is longer there is a larger percentage of old trees. The 1925 survey of commercial peach orchards showed that for the entire country the group composed of trees from 2 to 5 years of age was 48 per cent of the total while the group from 6 to 9 years was only 19 per cent of the total.

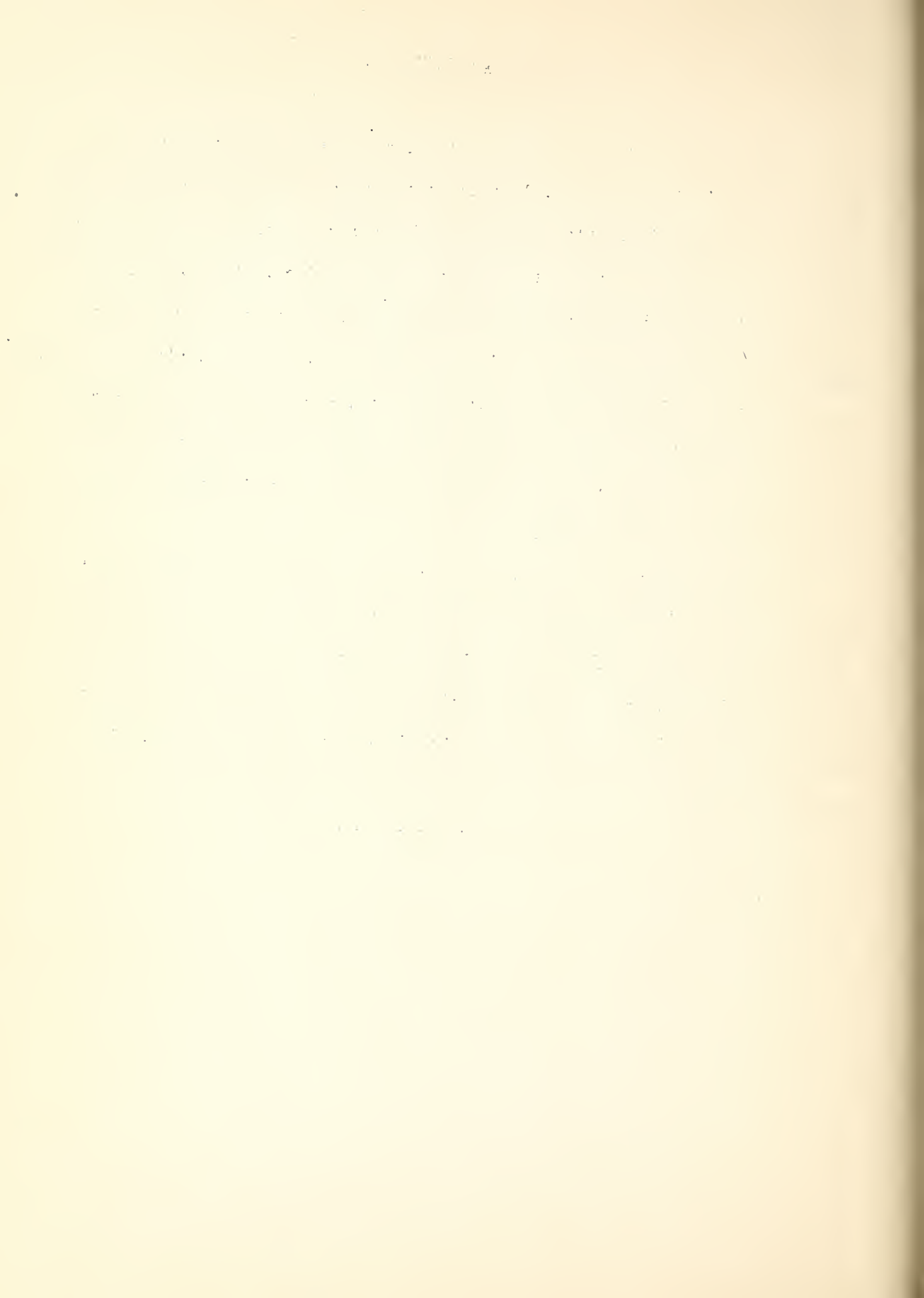
It is doubtful whether the market can absorb the prospective increased production at remunerative prices unless immediate steps are taken to improve the situation. Growers must produce fruit of high quality and give the most careful attention to grading. If the market supplies are confined to fruit of high average quality in years of heavy production more satisfactory returns to the growers will unquestionably result. There must be concerted action on the part of growers and shippers to maintain high standards and to secure the best distribution of the crop.

PEACHES - 2.

The effect of low prices to growers has already slowed down planting in many areas. However, in view of the upward trend in production the prospect is distinctly unfavorable for new commercial plantings at this time in the southern states. As a matter of fact, it would relieve the situation in these states if trees which are past their prime or which are located on unfavorable sites were removed. It would also be well to remove certain miscellaneous varieties which cannot compete successfully with the standard commercial varieties which reach the markets at the same time. Such trees are not profitable at present and they are not likely to be in the future.

In certain areas, particularly the Middle Atlantic and Mountain States, limited plantings necessary to maintain the present volume of production may be justified. Growers who are considering setting out trees in 1927 should give careful consideration to the local marketing situation and should confine their plantings to standard varieties on favorable sites.

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THE GRAPE OUTLOOK

The outlook is for a continued heavy production of grapes, and the setting out of vineyards except where conditions are extremely favorable would seem unwise.

California is by far the leading state in the grape industry, having produced 87 per cent of the United States grape tonnage, and shipped 82 per cent of the United States movement of 78,000 cars in 1926. Few vineyards have been set out during the past few years and only about 4 per cent of the California acreage is non-bearing. Prospective production from vineyards which have not reached full bearing is so great, however, that the problem of finding a satisfactory market during the next few years will probably continue difficult.

There is a rapidly increasing production from young vineyards in the Ozark region. Carlot shipments from Arkansas and Missouri in 1926 totaled over 1900 cars which is more than four times the average shipments of the previous two years. The indications are for further increases in the commercial crop from these states.

In other areas there is a possibility that a small amount of new plantings in the most favored locations might be made with a reasonable chance of success especially where roadside markets have become a factor in disposing of the crop. However, eastern grapes will continue to meet strong competition on the markets from the California crop.

THE STRAWBERRY OUTLOOK

With average yields in 1927 it seems likely that returns per acre to strawberry growers will be considerably less than the average for the past two years. Acreage has increased considerably during this period and caution should be exercised by growers who contemplate increasing their acreage this spring.

In the southern and mid-season States indications are for an acreage for harvest in 1927, 22 per cent greater than that of 1926 and 18 per cent greater than the 1923-26 average. The earliest shipping States have an indicated increase over 1926 of 15 per cent, while Arkansas, the Carolinas, Tennessee and Virginia show 26 per cent more acreage than in 1926. The next States to ship including Delaware, Maryland, Illinois, Kentucky and Missouri will probably harvest a 21 per cent greater acreage than in the previous year. Late states have also shown a tendency to increase plantings. The expansion over 1926 has been especially marked in Arkansas and Missouri. Increases have also been large in Tennessee, Louisiana, Illinois and Maryland.

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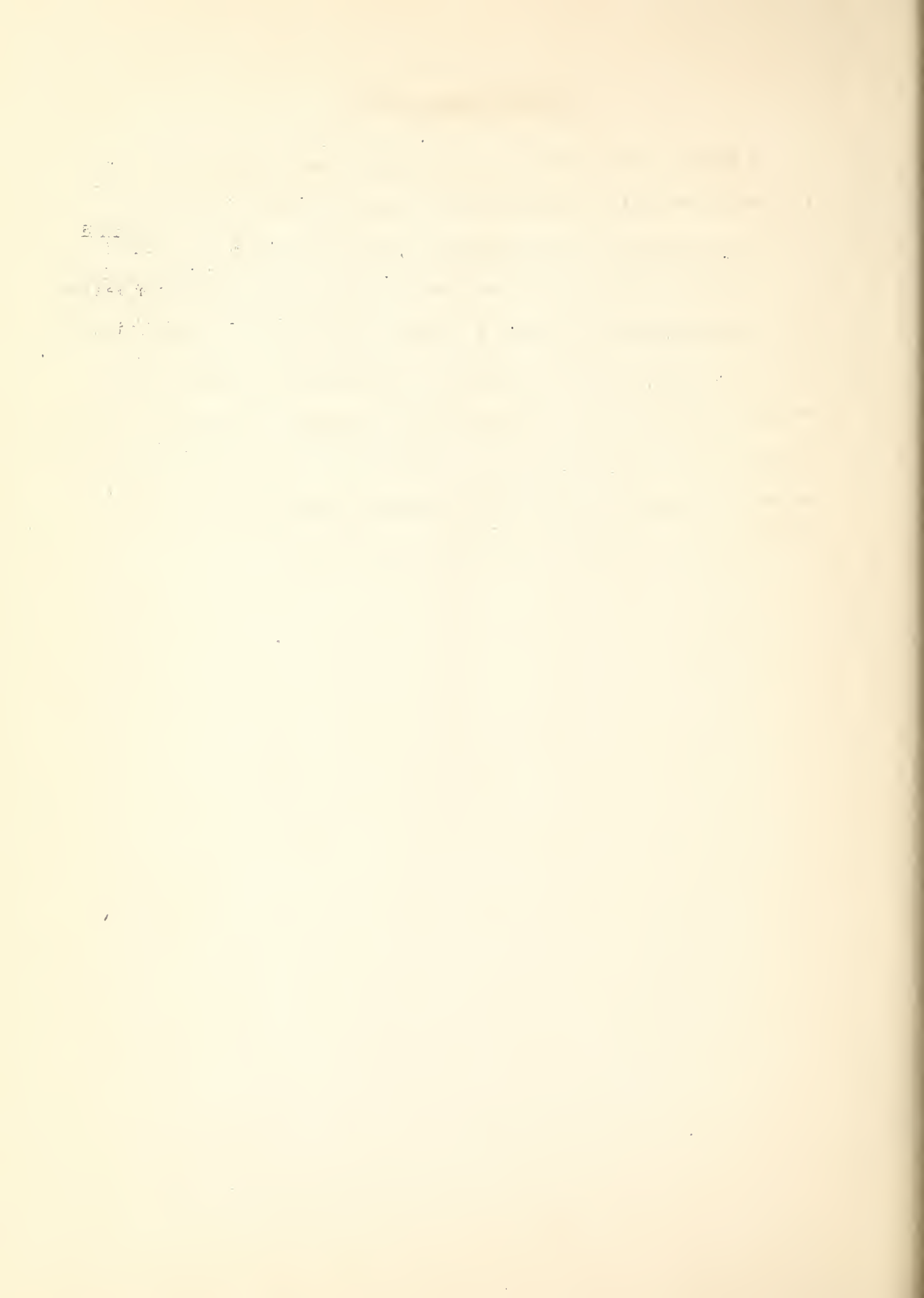
THE CANTALOUPE OUTLOOK

The cantaloupe situation during the past few years indicates that a duplication of last season's acreage in the early areas will be likely to result in prices unsatisfactory to the majority of growers, although a repetition of widespread damage by mildew in the Imperial Valley of California would affect the situation. In the intermediate shipping group of States prices generally were higher than in 1925 mainly because of the early closing of the Imperial Valley shipping season and the rather late beginning of heavy shipments from Colorado. It is to be hoped that this fairly satisfactory outcome will not lead to an undesirable increase in acreage. In fact the industry would be on a more stable basis if small decreases occurred, as it seems very improbable that last year's conditions will be repeated in 1927. The situation in the late shipping States is similar to that in the intermediate group. Increases in acreage would appear not to be justified except where local conditions seem favorable. In Colorado, the growers were especially fortunate in market conditions in 1926. If the past season's experience does not lead to overplanting, the marketing outlook for this year's crop in the late States should not be greatly different from what it was last year.



THE WATERMELON OUTLOOK

Prices received for the 1926 crop of watermelons give every indication that slight reductions in acreage would be to the benefit of the industry and that the present acreage can hardly be maintained and certainly cannot be increased without the prospect of lower prices than were received last year. A 23 per cent increase in production of watermelons last season resulted in a 38 per cent reduction in the average price per car to growers and in a decrease of over three million dollars in the total farm value. Further, it is significant that this reduction occurred in states where production was less than in 1925 as well as in states where production was larger.



THE PEANUT OUTLOOK

Unless the demand for Virginia-type peanuts increases during the coming year, a repetition of last season's acreage of large-podded nuts is likely to mean another year of low prices to the grower. The present very light stocks of Spanish and runner type peanuts, however, and the profitable prices being received, suggest that as much as 25 per cent more land might be planted to these small and medium podded types than in 1926 and the increased output marketed at reasonably satisfactory prices.

The carryover from the 1925 crop was very light in the Virginia-North Carolina Section and imports of large podded nuts during the 1925-26 season were little more than half the imports for the preceding season. Further, domestic production of Virginia type peanuts in 1926 fell off nearly 10 per cent from the 1925 figures. Yet prices opened low in November, and have since risen only slightly.

The carryover of Spanish and Runner types of peanuts at the beginning of the 1926 season was negligible. Opening prices showed a profit to the farmer, and though they later dropped for a while in sympathy with the weak cotton market, a reaction upward soon set in. Stocks of unshelled peanuts of Spanish and Runner types are now so low that most shelling plants in the Southeast will probably have to close down for lack of supplies long before new crop peanuts are available. An increase in the planting of Spanish type peanuts in the Virginia-North Carolina belt, as well as further south, would probably be profitable.



The Outlook for Clover and Alfalfa Seed

The available supply of red and alsike clover seed is the lowest in 25 years and the prices are next to the highest on record. There have been four consecutive small crops of red clover, which in 1926 culminated in the smallest crop ever recorded. As large an acreage of red clover as possible should be harvested for seed this year because of the depleted stocks, smaller potential acreage from which seed may be harvested this year, decided preferences of many farmers for domestic instead of imported seed, and likelihood of prices being high in the fall. Alsike clover seed production might well be increased because stocks in Canada, as well as in the United States, and potential acreage for seed this year are much below normal. The increase, however, should not be so large as in the case of red clover because if a large crop is harvested this year in Canada, prices will be depressed in the United States.

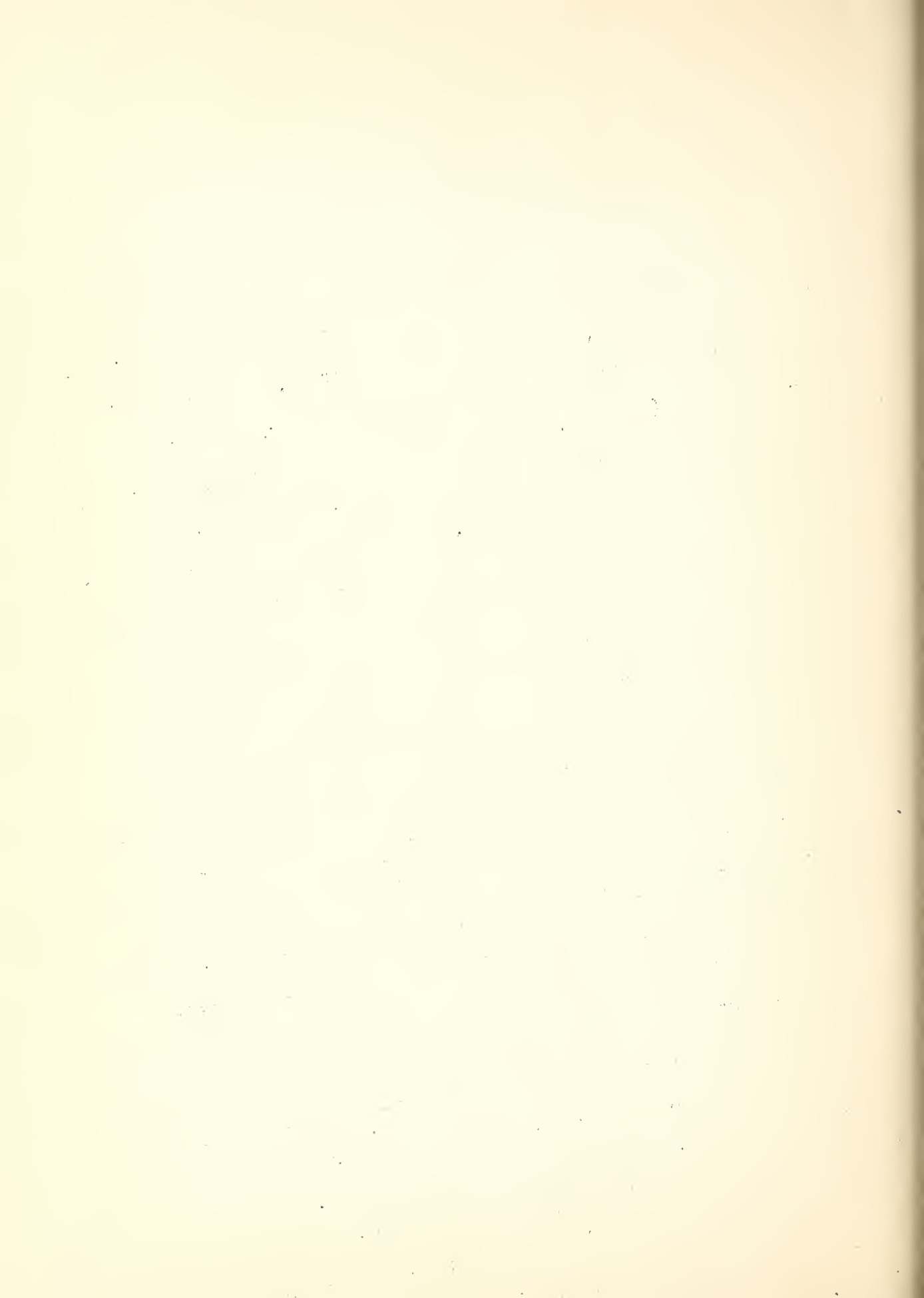
Because of prevailing high prices for red and alsike clover and the difficulty in obtaining domestic red clover seed adapted for sowing in certain regions, the attention of farmers is called to the ample supplies of relatively cheap alfalfa and sweet clover seed. Doubtless these seeds will be used considerably to replace red and alsike clover wherever soil and climatic conditions will permit, just as they were last year. Growers of alfalfa and sweet clover seed should bear in mind that such extensive substitution may not continue after prices for red and alsike clover decline. The production of alfalfa and sweet clover seed during the past two or three years has been more than sufficient to meet the increased demand.

Clover and Alfalfa Seed - 2

The total clover seed production, exclusive of sweet clover, is estimated at only 47,820,000 pounds, compared with 66,780,000 pounds in 1925, 57,480,000 in 1924, and 71,032,000 pounds, the average for the five-year period (1921-25). The unusually small crop of red clover seed in 1926 was due to a marked reduction in acreage, as yields averaged the same as in 1925 and more than in 1924. With the staining of imported red clover seed, as provided for under an amendment to the Federal Seed Law, domestic seed commands a greater premium over foreign seed than heretofore. Available supplies of red clover in Europe are about the same as last year but a smaller quantity is expected to be exported this year to this country.

Imports of red clover for the fiscal year ended June 30, 1926, amounting to 19,725,200 pounds, were third to the largest on record and about 9,000,000 pounds larger than the average annual imports for the 15 years 1911-25. Imports July 1, 1926, to January 15, 1927, amounting to 3,436,000 pounds plus 1,776,600 pounds to be permitted entry after staining, were larger than usual but much smaller than last year for the same period. The 1926 production, carryover of old seed, and quantity already imported plus that likely to be imported, based on liberal estimates, in time for spring sowing would total approximately 10,000,000 pounds less than the average annual consumption (72,000,000 pounds) for the past 10 years.

Although there was little difference in the size of the 1925 and 1926 crops of alsike clover, in this country, the total available world supply is even smaller than last year due to the big decrease in the 1926 production in Canada. Last year large imports from that country made up much

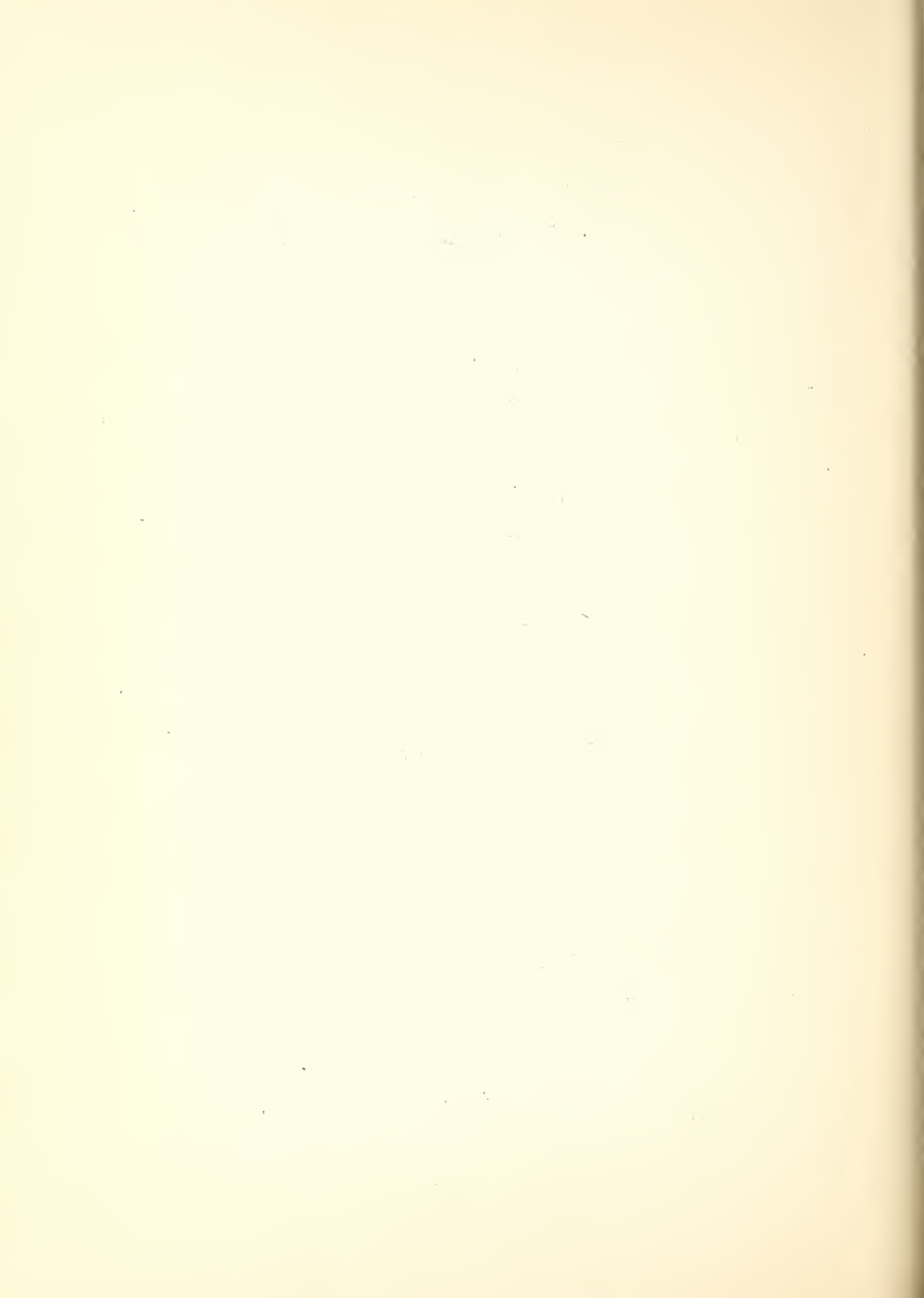


Clover and Alfalfa Seed - 3

of the shortage in this country, but this year large supplies from that source will not be available. Imports July 1, 1926, to January 15, 1927, amounting to only 848,600 pounds, were next to the smallest on record and less than one-sixth of the five-year average (1922-26) for that period. Prevailing prices for alsike clover, which are nearly 80% higher than the five-year average for corresponding dates, are expected to curtail the consumption. It is estimated that available supplies would fall short by 4,000,000 pounds of satisfying the average annual requirements.

Although consumption of sweet clover seed has increased by leaps and bounds, production in recent years has more than kept pace with it. Had not unfavorable weather occurred in several important producing districts in this country and Canada, stocks of sweet clover would now be burdensome. Under these conditions further increases in the acreage of sweet clover for seed production are not warranted. Imports July 1, 1926, to January 15, 1927, amounting to 1,850,600 pounds, were about normal.

The 1926 crop of alfalfa seed, estimated at 55,000,000 pounds, was next to the largest on record, having been exceeded only by the 1925 crop. The small reduction from the 1925 crop was due mostly to the big decrease in Utah, which in 1925 contributed about 45% of the total crop of the United States. The total acreage for seed was larger than in 1925 and the yield in a majority of the producing States was also larger. The carryover of old seed is considerably larger than normal. Imports July 1, 1926, to January 15, 1927, amounting to 1,989,900 pounds, were somewhat larger than a year ago, but were much smaller than the five-year average (1922-26) for



Clover and Alfalfa Seed - 4

that period. An increase in the acreage for seed this year is not justified in view of the fact that present production is sufficient to cover the expected increased requirements and similar conditions of high priced red clover and alsike clover may not exist during the spring of 1928. A reduction in seed acreage might well be recommended if it were not for the fact that idiosyncrasies of the weather play such an important part in the production of alfalfa seed.



THE TOBACCO OUTLOOK

The major factors affecting the tobacco industry in 1927 are those that have been pointed out in previous outlook reports, namely, the world wide tendency of consumers to adopt the cigarette habit in preference to other forms of tobacco consumption, and the increased foreign competition with which American growers of non-cigarette types are confronted. Indications of the continued drift toward cigarettes are unmistakable and are of fundamental significance to tobacco growers. Growers of cigarette tobacco have before them an expanding market, but not one that will stand heavily increased acreage, and no serious foreign competition, whereas the producers of dark fired and dark air cured export types are faced with increased foreign competition in a market which itself is undergoing contraction.

The foreign situation exhibits the same tendencies with respect to preferences noticeable in the domestic markets. Exports of flue cured leaf for manufacture into cigarettes increased materially during 1926. On the other hand, exports of all dark types during 1926 were reduced from the previous year. The foreign production situation indicates that present competition in the dark types will be maintained or increased, particularly in the lower grades. Production abroad of flue cured tobacco of the American type is negligible except in the far east and is not expected to increase materially in the near future. The effect of these varying conditions has been to discourage growers in certain sections and to raise growers in the favored sections to heights of optimism which may lead to serious overproduction.

THEORY OF THE EARTH

THEORY OF THE EARTH is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and sequence of these processes. The theory of the earth is based on the study of the earth's structure, its composition, and its history. It is a science which is constantly developing, as new discoveries are made and new theories are proposed. The theory of the earth is a branch of geology which deals with the origin and development of the earth and its various parts. It is a science which seeks to explain the processes which have shaped the earth and its features, and to determine the time and sequence of these processes. The theory of the earth is based on the study of the earth's structure, its composition, and its history. It is a science which is constantly developing, as new discoveries are made and new theories are proposed.

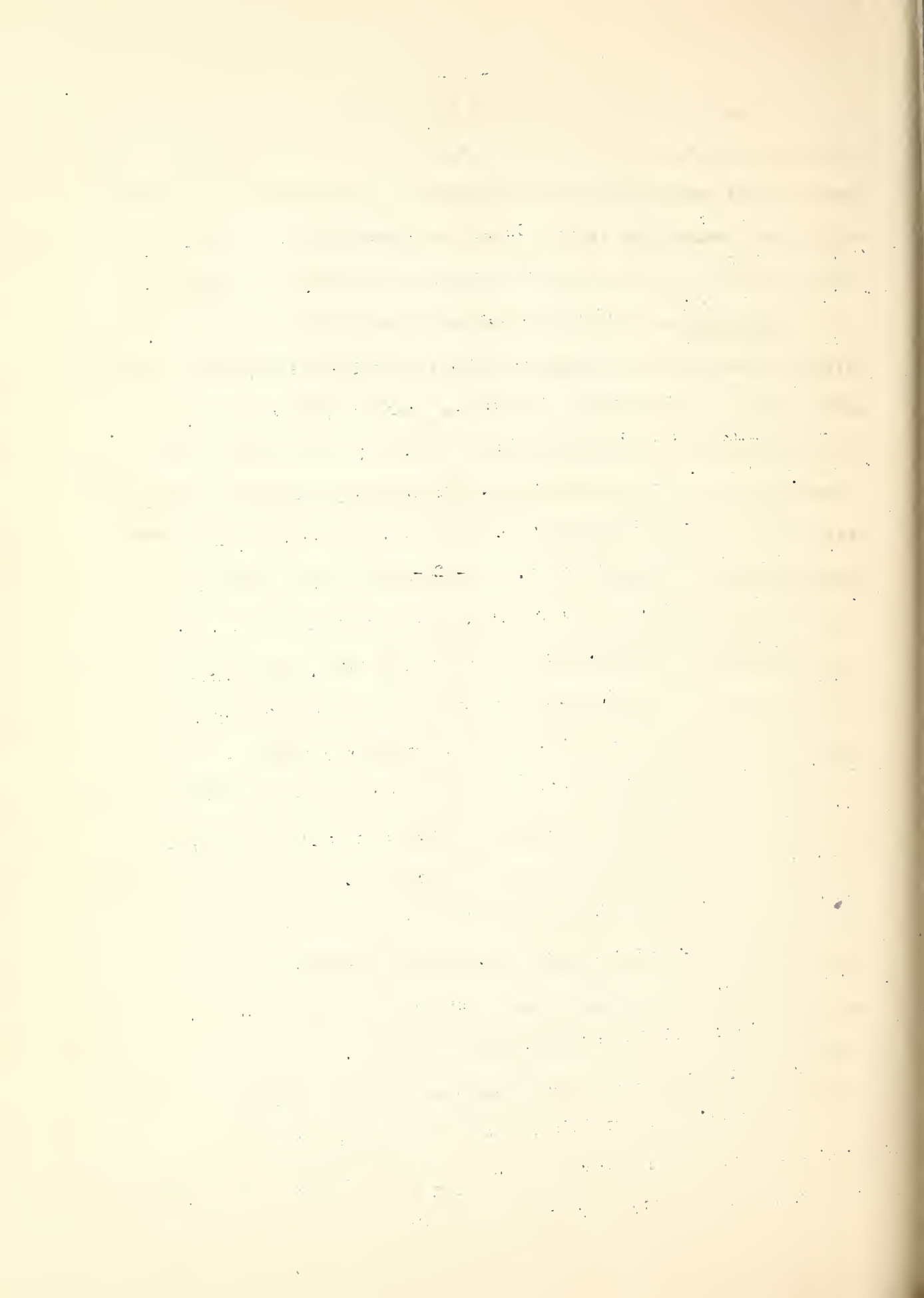
Tobacco

The producers of cigar leaf in some sections are in a better market position than they have been for several years past, but in the main there is need for still further readjustment between supply and demand. While cigar consumption is still low, developments indicate that the foundations for rehabilitation of the cigar industry are being laid.

Flue Cured.-- From the standpoint of supply it is in the most favorable position of all American types. Exports and domestic cigarette manufactures are on an increasing scale, and the consumption during 1926 was greater than in any previous year. All present evidence points to a continuation of the upward trend in consumption of cigarettes both in this country and abroad in 1927. Great Britain and China, the largest foreign consumers of this leaf, both increased their takings in 1926.

The trade with China was carried on last year in spite of serious revolutionary disturbances which have not as yet appeared to affect the importations of tobacco, but these conditions are nevertheless a factor of uncertainty that may prove of increasing concern.

The great danger in the flue cured situation is that growers may be led into serious over-production in 1927. The prices paid for leaf tobacco of the 1926 crop in the flue cured districts have been very much higher than the prices paid for cotton in the same areas. The contrast between the exceptionally good returns from tobacco and the losses incurred in cotton production is striking, and the probability is obvious that not only will 1926 tobacco growers increase their acreage in 1927 but that their ranks may be heavily recruited from among the cotton growers.



In other words, it would seem that the stage is set for a landslide from cotton to tobacco in 1927. Any such development on a large scale could have only one result--utter demoralization of the market for this type of tobacco with its attendant losses to the growers.

Barley.-- For several years the Outlook Report has pointed out the dangerous position of Barley tobacco. Disappearance during the five years 1921-1925, inclusive, averaged less than 246 million pounds, while during the same period production averaged 280 million pounds. The production in 1926 is estimated at 312,630,000 pounds, and added to stocks of old leaf on hand October 1, makes the enormous available supply of 776,667,000. Production in 1926 exceeded consumption by more than 44 million pounds. Exports of Barley, which usually are only six to seven million pounds, are only holding their own.

Continued heavy production of this type, especially on soils unsuitable for the lighter grades, overlooks the manifest fact that the character of the Barley outlet has undergone a radical change. Whereas its greatest use in former years was in the manufacture of chewing and pipe tobacco with cigarettes claiming a relatively small proportion of the crop, the present market is conditioned primarily upon the cigarette trade, the manufacture of chewing tobacco having declined to a very marked extent. This decreasing outlet for tobacco of chewing grades appears to be partly responsible for the present great accumulation of stocks. Farmers will do well, therefore, not only to restrict their plantings to soils where experience teaches them that light Barley may be produced, but to adopt such cultural methods and plant such varieties

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as will insure the minimum production of the darker and heavier grades of leaf. It should be emphasized that total production of Burley tobacco is on too large a scale and should be reduced.

Green River.-- The acreage of this type was cut sharply in 1926 and the statistical position has been improved. The available supply of leaf is less than it has been for a number of years, and recent reports indicate that the price is showing some improvement. The stocks on hand October 1 were 51,711,000 pounds, the lowest of any year since 1922, but higher than for any year previous to that. The outlook for 1927 may be considered fair for a crop of about the same size as was produced in 1926.

One Sucker.-- The outlook for One Sucker tobacco is extremely discouraging. It is used mainly in the manufacture of plug and twist chewing tobacco and snuff and in the rehandling trade with the west coast of Africa. The disappearance of this type during the year ending October 1, 1926, was the lowest of any year for which statistics are available excepting only 1917. Notwithstanding the fact that production has decreased 40 per cent during the past three years, consumption has decreased to such an extent that accumulated stocks on October 1 were the highest on record. The whole situation is such as to indicate the need for a drastic readjustment of the scale on which this crop is produced.

Virginia Sun Cured.-- The immediate outlook is favorable provided a slight reduction in acreage is put into effect in 1927. This exclusively chewing type is confronted by a constantly narrowing outlet due to the fact that the chewing habit is decreasing. Production has been

on a decreasing scale, particularly since 1918, which year also marks the beginning of a pronounced decline in the manufacture of chewing tobacco. The acreage was increased about 11 per cent from 1925 to 1926 and in the latter year there was an unexpectedly good yield, resulting in a decline of about 50 per cent in price per pound. Since the present relatively large supply is due in part to the heavy yield per acre in 1926, a radical reduction in acreage does not seem justified.

Maryland.-- The market for this type is expanding gradually, although the disappearance is considerably below that of the period immediately following the war. So long as the scarcity of labor continues to be a limiting factor, there appears to be little danger of over-production. Tobacco of cigarette quality is selling at good prices and the outlook for these grades appears good.

Dark-fired tobacco.-- The outlook for the dark fired tobacco of Kentucky, Tennessee and Virginia is the most discouraging in recent years. The outlook reports for 1924 and 1925 both called attention to the situation confronting the growers of these types of tobacco. Production has decreased somewhat, particularly in the Paducah District of Kentucky, and Tennessee, in spite of which the stocks of dark fired tobacco in the hands of dealers and manufacturers are increasing steadily and on October 1, 1926, they were the highest October 1 stocks on record except in 1918 when they were affected by war conditions. In contrast with this, the production in 1926 was about 172 million as compared with 197 million pounds in 1925, 199 millions in 1924 and an average of 236 million pounds for the 5-year period from 1916 to 1920.

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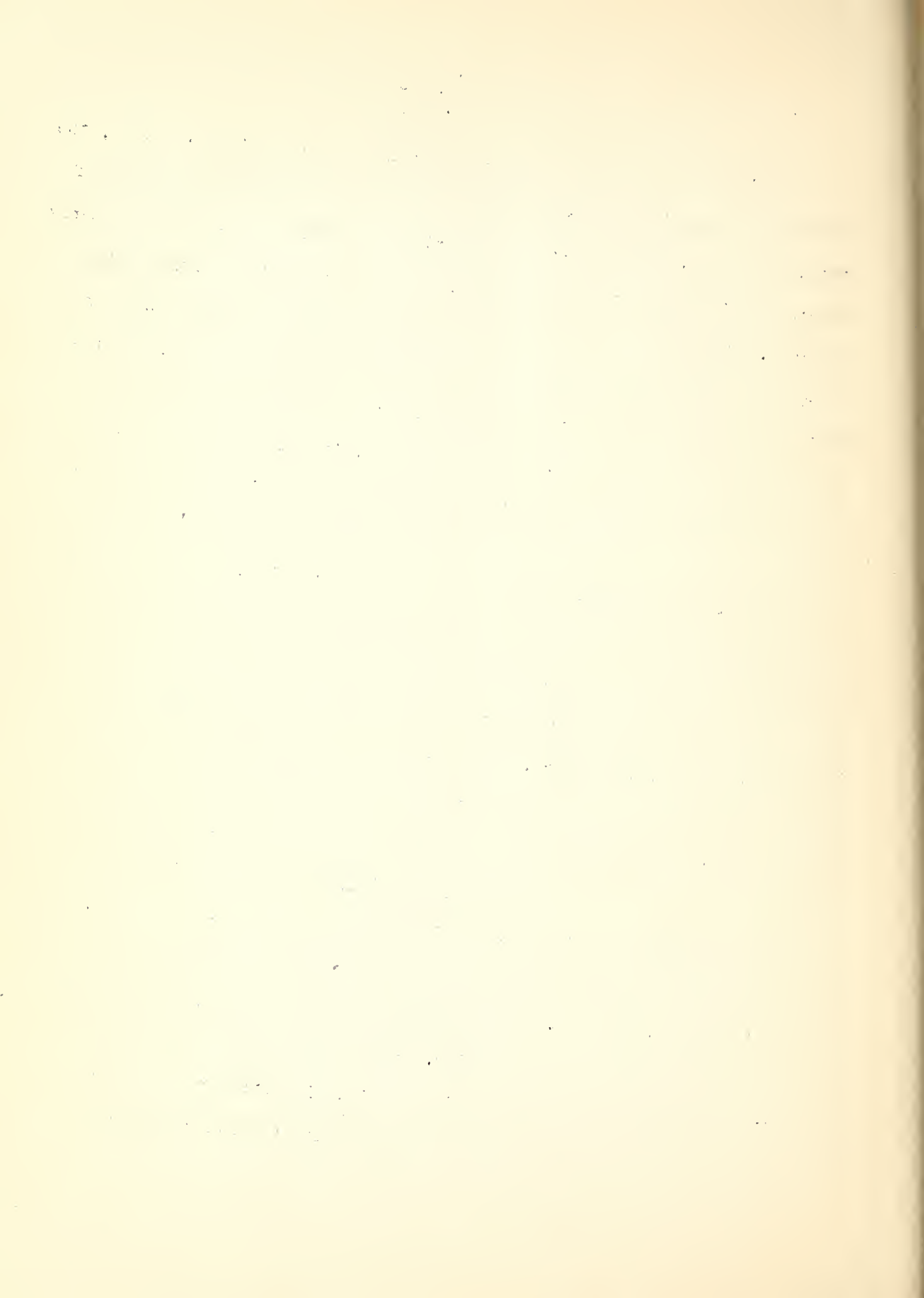
Tobacco

On the demand side two factors stand out as important. First, the foreign production of tobacco has increased in recent years and much of this tobacco is being used where American dark fired tobacco was formerly used. This production is being encouraged by present foreign tariff rates. Secondly, foreign as well as domestic consumers are using more cigarettes and relatively less tobacco in other forms. Dark fired tobacco is perhaps at a greater disadvantage than any other type because of this change in demand. It may be noted, in this connection, that there is a slight improvement in the German market for this type of tobacco.

It now appears that most growers of dark fired tobacco will receive less than ten cents per pound for the 1926 crop. With tobacco at less than 10 cents per pound most of these farmers will find it profitable to devote to other enterprises a part of the land and labor now being devoted to tobacco. The undertaking or expansion of alternative enterprises and the improvement of the quality of the tobacco appear to be the only remedies for the present dark tobacco situation.

CIGAR TOBACCO

Cigar consumption is to some extent cyclical in character. In the past, peaks of wages and employment have usually indicated peaks of cigar consumption. The last such peak was in 1920, following which there was a very severe decline, with a partial and short-lived recovery in 1923. Certain trends within the cigar industry are of especial significance to growers. Cigar consumption in the United States for the



first 11 months of 1926 appears to be slightly larger than during the corresponding period of 1925, but is slightly less than in 1924.

While consumption of cigars in Class A (5 cents) and Class C (more than 8 but not more than 15 cents) is increasing, the increases are in large part offset by the declining consumption of the intermediate grade, Class B (more than five but not more than eight cents).

A further trend is the continued increase in the use of Porto Rican fillers, which to some extent appear to be supplanting Cuban leaf, but probably also are competing with fillers from the Connecticut Valley.

It is probable that some former Class B cigars are now in Class C. For the most part, however, they have either been abandoned or modified and put in Class A, the effect being to raise the average quality of the group. Class A cigars, therefore, are significant chiefly because of their increasing variety and improving quality, by reason of which their competitive strength in relation to cigarettes is greatly enhanced. In place of the short filler cigars of decidedly mediocre quality which have represented Class A since the war, more and more long filler cigars of good quality are appearing on the market, priced at 5 cents each. Upon this development more than any other seems to rest the hope for a revival of the cigar industry and the hopes of growers in most of the cigar leaf areas. To properly exploit this field will require the cooperation of growers and manufacturers, in the betterment of quality of leaf on the part of the growers, and on the part of both the most intelligent efforts toward reducing production costs.



This situation is being helped somewhat by the recent reduction of the internal revenue tax on cigars and by the improvement of machines for manufacturing cigars.

New England.-- A condition of over-supply has existed in New England tobacco for several years. Relatively high consumption in 1926 coupled with relatively low production, has materially benefitted this situation, but the available supply of leaf is still large when compared with 1922 and previous years, and the present improved market situation can easily be dispelled by a return to heavy production. The general situation is such as to suggest that farmers make no increase in acreage in 1927, but rather restrict their plantings to the best soils and strive for betterment of quality. The increasing importance of Class C cigars and the decreasing importance of Class B cigars may have direct bearing on this point.

The same suggestions apply to the cigar leaf areas in Georgia and Florida.

Wisconsin.-- The Wisconsin situation has been improved during the past two years by the reduction of old stocks. Production has been on a lower scale and that in 1926 was the lowest in many years. The total potential supply on October 1 was 126,553,000 pounds compared with 155 million pounds, the average of the five preceding years. The improved situation is due to the fact that consumption has been greater than production for several years. The stocks of leaf are still higher than for a long series of years up to and including 1920, and therefore the greatest good will result from a policy of moderate acreage and high quality rather than large acreage and a high proportion of stemming crops.

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Tobacco

Pennsylvania and New York.-- The principal type of Pennsylvania tobacco is used for fillers in 5 cent cigars. Over-production was the rule for several years, until 1926, and stocks of leaf are still large. Last year was the first since 1920 that consumption has been equal to or greater than production. Pennsylvania farmers have an exceptional opportunity to reestablish their tobacco market. The outlook is for a continued growth of the 5 cent cigar business, which is their field. To profit from this opportunity, however, will require first a further restriction of production until the great accumulation of old stocks is materially reduced, and secondly the production of better grades of leaf. The tendency in Class A cigars is toward long fillers and premier qualities, and the low grades of leaf will be a drag on the market.

The Havana seed of Pennsylvania and New York is of binder type and the production appears to change but little from year to year.

Ohio and Indiana.-- In the Miami Valley depression is great and to some extent unwarranted. Progress has been made in reducing stocks, and the low prices paid for 1926 tobacco were largely due to the poor quality. The same factors discussed under Pennsylvania apply to the Miami Valley, however, and the same general conclusions are drawn.

It is recommended that farmers adhere to their policy of moderate acreage, but give especial attention to improving the quality of their crop.



THE SUGAR OUTLOOK

With world sugar production for the current season below that of last year and consumption apparently increasing, the trend of sugar prices seems to be toward higher levels. In well established sugar beet districts where adequate yields can be expected, growers who can secure satisfactory contracts will probably find it advantageous to increase acreage up to factory capacity. Louisiana cane planters who have a supply of seed cane of disease resistant varieties will also probably find it advantageous to increase acreages.

Indications are that the world sugar crop for the current season will be about 6 per cent below that of last year. While the decrease is partially offset by increased stocks, consumption which has been steadily increasing, may be expected to absorb a large part of them leaving a small carryover at the end of the present season.

The 1926-27 world sugar crop is roughly estimated at 25,800,000 short tons or 1,662,000 short tons below that of last season. The decrease from last year is mostly accounted for by reductions in the important sugar exporting countries of Czechoslovakia, Cuba, and Java. The reduction in sugar production in these three countries alone is 1,318,000 short tons.

The decrease in world production appears to be partially offset by an increase in carryover from the previous season. Carryover and stocks on September 1 at the United States refining ports, at all points in Cuba, and in eight important European countries amounted to 3,179,000 short tons as compared with 2,383,000 short tons on the same date in 1925. However, consumption in most countries has been steadily increasing in recent years



and it seems reasonable to expect that it will continue to do so in the coming year. Consumption in eleven European countries, for which data are available increased from 6,622,000 short tons during the 1924-25 season to 7,055,000 short tons during the season just closed. Reports for some of these countries in previous years indicate a similar increase. In the United States consumption is also increasing. The indicated sugar disappearance in the United States has increased from 5,656,000 short tons in 1923/24 to 6,560,000 in 1924/25 and 6,669,000 in 1925/26. It seems probable that unless prices rise sufficiently to prevent it, the carryover from the 1925-1926 season will be practically absorbed leaving minimum stocks at the end of the present season.

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